

प्राग्धारा Pragdhara

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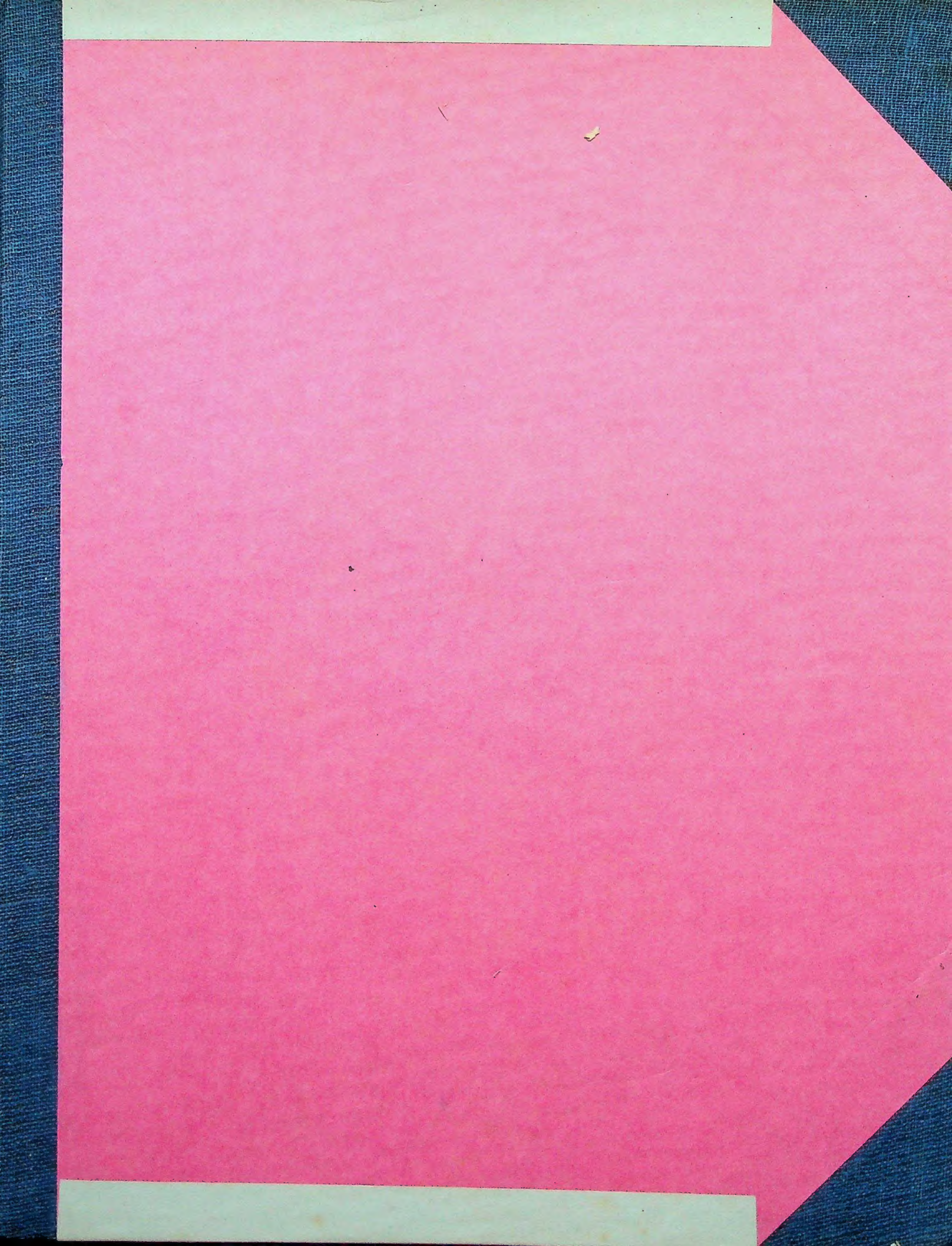
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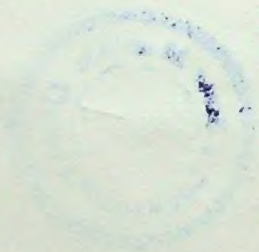


उ. प्र. राज्य पुरातत्त्व संगठन की
"शोध पत्रिका"

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उ० प्र० राज्य पुरातत्व संगठन की शोध पत्रिका
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राकेश तिवारी

Editor
Rakesh Tewari

उ० प्र० राज्य पुरातत्व संगठन, लखनऊ

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लेखकों द्वारा व्यक्त विचारों के लिए सम्पादक का उत्तरदायित्व नहीं होगा।

मुद्रक : सर्वश्री प्रतिभा प्रेस, (ऑफसेट डिवाजन) लखनऊ, फोन : 247101 द्वारा मुद्रित
एवं उत्तर प्रदेश राज्य पुरातत्व संगठन द्वारा प्रकाशित।

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आमुख

इस अभिनव पत्रिका के प्रथम अंक में हमने 'तथ्यों की ऐतिहासिकता' के विषय में चर्चा प्रारम्भ की थी कि, कौन सी बातें ऐतिहासिक तथ्य होती हैं और कौन सी नहीं।

अब हम और आगे बढ़ते हैं। वर्तमान युग इतिहास को नीचे से अर्थात् सामान्य जन में से समझने का है। इतिहास अब मात्र महापुरुषों की गाथा ही नहीं है।

जैसा कि महान परिवर्तनों की साक्षी इस शताब्दी के एशिया के प्रसिद्ध दार्शनिक ने कहा है कि 'कला और संस्कृति के सन्दर्भों में उत्कर्ष को लोकप्रियता से अलग नहीं किया जा सकता है।' इसी प्रकार इतिहास को भी व्यापक जनसमूह की पहुँच में रखा जाना चाहिये क्योंकि वह मात्र महापुरुषों की नहीं, वरन् वस्तुतः उन्हीं की गाथा है। ऐसे देश में जहाँ हमारे अतिशयोक्ति पूर्ण हलके मानकों (जहाँ हस्ताक्षर कर लेना ही साक्षर होने का मापदण्ड हो) के बावजूद भी केवल आधे से कम पुरुष और एक तिहाई से कम स्त्रियाँ ही साक्षर मात्र हों, जहाँ पढ़ने की प्रवृत्ति और क्षमता इतनी कम हो, वहाँ इतिहास के यह रंगकर्म किस प्रकार इतिहास का अध्ययन कर सकेंगे?

उत्तर है- पुरातत्व

पुरा-स्थलों का भ्रमण और वहाँ जाकर पुरावशेषों को देखना ही समस्या का हल है। अतः पुरातत्व को न केवल अभूतपूर्व ढंग से प्रोत्साहित और गति प्रदान करना आवश्यक है, वरन् सर्वेक्षणों के परिणामों और उपलब्धियों को इस ढंग से प्रस्तुत भी किया जाना चाहिए कि जन-सामान्य उन्हें सरलता से समझ सके।

अतएव समय की मांग है कि पुरातत्व का आधार विस्तृत किया जाये। सर्वेक्षणों की संख्या में वृद्धि लायी जाये एवं गहन विचारोपरान्त निकाले गये निष्कर्षों को पुरास्थलों पर प्रदर्शित किया जाये। इतिहास को पुरातत्व के माध्यम से अधिकाधिक लोगों को आसानी से समझाया जा सकता है। इसी का प्रयास होना चाहिये।

वस्तुतः राज्य, शासन और इतिहास के अध्ययन सभी में 'जन' तो सामान्य ही हैं।

पत्रिका के इस अंक में चिन्तन के लिए यह एक विचार है।

30 मार्च, 1992
लखनऊ

आलोक सिन्हा

(आलोक सिन्हा)

सचिव

सांस्कृतिक कार्य, उ० प्र० शासन

निवेदन

स्वभाव से मानव जिज्ञासु है। अन्य प्राणियों की तुलना में उसमें बुद्धि-तत्त्व की प्रधानता होने के कारण अपने ज्ञान के परिवेश की हर चीज में वह 'क्यों' और 'कैसे' का उत्तर चाहता है। उसे अपने प्रश्नों के समाधान के लिए प्रायः बीते हुए कल में झांकना आवश्यक हो जाता है। वर्तमान, अतीत का बेटा ही तो है। मनुष्य अतीत की सीढ़ियों पर चढ़कर ही वर्तमान के समतल मैदान तक पहुंचा है, जो आगामी वर्तमान के लिए कालक्रम में एक और सीढ़ी ही बनकर रह जाएगा। काल के उत्तराधिकारी के रूप में यदि कुछ रह जाता है तो वह है- इतिहास। काल अपनी गति में सब कुछ इतिहास को ही सौंपता जाता है- निर्माण, विनाश, परिवर्तन, पटाक्षेप। इस प्रकार काल और इतिहास एक दूसरे से भिन्न दिशाओं में चलते हैं। इतिहास अतीतोन्मुखी है तो काल भविष्योन्मुख। काल के प्रवाह में यदि अतीत आज का इतिहास है तो वर्तमान कल का इतिहास होगा। इतिहास काल का धुंआ है।

सामान्यतया हम इतिहास उसी को समझते हैं जो हमने अतीत के बारे में जान लिया है, मान लिया है। किन्तु इतिहास अपने व्यापक अर्थों में काल की उन तमाम आड़ी तिरछी रेखाओं और निशानों को भी समेटे रहता है जो अतीत के गर्भ में इतने धुंधले हो गए हैं कि जिन्हें खोज पाना कठिन होता है। पुरातत्व का सम्बन्ध और कार्य इन धूमिल पड़ गए, खोये हुए चिन्हों को खोजकर रेखांकित करना तथा उनके बारे में प्रमाणिक जानकारी देते हुए इतिहास की पुनर्रचना और वृद्धि में योगदान देना है।

उत्तर प्रदेश भारत का महत्वपूर्ण भू-भाग है। समय के प्रवाह के साथ इस प्रदेश ने अनगिनत उतार-चढ़ाव, उत्थान-पतन, उत्कर्ष-अपकर्ष, संघर्ष और मेल तथा निर्माण और विध्वंस के अध्याय देखे हैं। भारतीय संस्कृति की निर्विवाद निरन्तरता में यह सब किस प्रकार समाहित हुआ है, यह खासे कौतूहल का विषय है। उत्तर प्रदेश का पुरातत्व विभाग इस सम्बन्ध में लगातार परत दर परत खोलने का महत्वपूर्ण कार्य कर रहा है।

काफी समय से एक ऐसी पत्रिका के प्रकाशन की आवश्यकता अनुभव की जा रही थी जो पुरातत्व के क्षेत्र में कार्यरत पुरातत्वविदों, विद्वानों एवं अनुसंधित्सुओं को एक जगह एकत्रित कर उनके ज्ञान से जिज्ञासुओं को लाभान्वित कर सके। श्री आलोक सिन्हा, सचिव, सांस्कृतिक कार्य की प्रेरणा और मार्ग-दर्शन तथा डा० राकेश तिवारी, निदेशक, उत्तर प्रदेश राज्य पुरातत्व संगठन एवं उनके अधीनस्थ स्टाफ के अथक प्रयास से वर्ष 1991 में "प्राग्धारा" का प्रकाशन इसी दिशा में दीर्घ प्रतीक्षित कार्य था। प्रथम अंक के प्रकाशन के साथ ही इस पत्रिका को नियमित कर प्रतिवर्ष प्रकाशित करने का संकल्प लिया गया था। हमें यह बताते हुए प्रसन्नता है कि उत्तर प्रदेश शासन द्वारा इस पत्रिका को नियमित प्रकाशन के प्रस्ताव को स्वीकार कर आवश्यक धनराशि की व्यवस्था कर दी गई है।

हमारा विश्वास है कि 'प्राग्धारा' नियमित रूप से प्रकाशित होकर पुरातत्व के क्षेत्र में होने वाले महत्वपूर्ण कार्यों से जिज्ञासावान पाठकों को अवगत कराने में न केवल संवाहिका का कार्य करेगी वरन् मानव जाति के इतिहास में नवीन आयामों और अभिनव दृष्टि प्रदान कर प्रमाणिकता को ही मुख्य प्रतिज्ञा मानकर अतीत की सम्पदा को वर्तमान और आगामी वर्तमान के लिए प्रस्तुत करने के अपने गुरुतर दायित्व का सफलतापूर्वक निर्वहण करती रहेगी।

स्तुति कक्कड़

(स्तुति कक्कड़)

निदेशक

सांस्कृतिक कार्य, उत्तर प्रदेश

14 जनवरी, 1992

सम्पादकीय

सहधर्मियों और जनसाधारण से संवाद स्थापित करने के लिए पिछले सत्र में प्राग्धारा के माध्यम से प्रारम्भ किया गया प्रयोग आशा से कहीं अधिक सफल सिद्ध हो रहा है। इसके प्रथम अंक में प्रकाशित सामग्री से हमें अपने व अन्य प्रदेशों की पुरातत्व सम्बन्धी नवीनतम उपलब्धियों की जानकारी मिली। साथ ही काटर-उमरगढ़ (कानपुर), पलेठी और पैठाणी (गढ़वाल) के पुरावशेषों पर प्रकाशित लेखों के विषय में प्राप्त पत्रों में व्यक्त जिज्ञासा से अपने प्रयत्नों की सार्थकता का आभास भी मिलने लगा है।

पहला अंक देखकर जहां अनुभव-सिद्ध पुराविदों ने इसे संरक्षण प्रदान करने की सहर्ष स्वीकृति प्रदान की है, वहीं युवा-पुराविदों और सहधर्मियों ने भी समान रूप से योगदान किया है। इसकी परिणति 'प्राग्धारा अंक 2' के रूप में आपके समक्ष प्रस्तुत है।

इसके प्रारम्भ में दिन-प्रतिदिन लोकप्रिय होते जा रहे विषय- 'शैलचित्रों' पर प्रकाशित लेख पत्रिका को एक नया आयाम दे रहे हैं। गोरखपुर-बस्ती के सर्वेक्षण/उत्खनन से सम्बन्धित लेख पूर्व वार्ता में अगली कड़ी जोड़ रहे हैं। महाशम परम्परा, महाजनपदों के अभ्युदय, अभिलेखों, वास्तु-कला, पुरा-वनस्पति आदि विषयों पर सम्मिलित शोध-पत्रों में अनेक रोचक एवं नवीन सूचनाएं प्रस्तुत की गयी हैं।

विश्वविद्यालयों और भारतीय पुरातत्व सर्वेक्षण के पुराविदों ने इस 'धारा' में रस-संचार करने में विशेष भागीदारी निभायी है। उनके प्रति धन्यवाद ज्ञापित करते हुए विनम्र निवेदन है कि यह पत्रिका उनकी है और इसे ऐतिहासिक तथ्यों का स्रोत बनाने का दायित्व हमसे अधिक उनका है। अतः उनसे इसी प्रकार पत्रिका को संवर्धित करते रहने का अनुरोध है।

इसे और अधिक उपयोगी बनाने के सन्दर्भ में विद्वान पाठकों से महत्वपूर्ण सुझाव मिले हैं। अगले अंक में हम उनका लाभ लेने का यत्न कर रहे हैं। ऐसे और अधिक परामशों की हमें आगे भी प्रतीक्षा रहेगी।

नई-नई पत्रिकाओं के आकस्मिक उदय और अचानक विलुप्त हो जाने के इस युग में कुछ मित्रों ने प्राग्धारा को ऐसी असामयिक 'गति' से बचाने का आग्रह किया है। उन्हें आश्चर्य करते हुए अवगत कराना है कि 'प्राग्धारा' की उपयोगिता को दृष्टिगत रखकर सांस्कृतिक कार्य विभाग के विद्यानुरागी मंत्री, माननीय श्री केदार सिंह फोनिया, सचिव, श्री आलोक सिन्हा और निदेशक, सुश्री स्तुति कक्कड़ ने इसके प्रकाशन की स्थायी व्यवस्था करा दी है। वित्त और नियोजन विभाग ने एक मत से इस हेतु वित्तीय प्राविधान का अनुमोदन किया है। उद्योग विभाग ने इसके सामयिक और स्तरीय प्रकाशन के लिए उत्कृष्ट प्रेसों से मुद्रण कराने की विशेष अनुमति प्रदान की है। ऐसे प्रेरणाप्रद संरक्षण के लिए पुरातत्व परिवार इन सभी महानुभावों और विभागों के प्रति सदैव आभारी रहेगा।

श्री अवधेश कुमार सिंह राठौर, संयुक्त निदेशक, सांस्कृतिक कार्य इस पत्रिका में रुचि लेकर तत्सम्बन्धी समस्याओं के निराकरण में हमारी टोली के एक सदस्य की तरह हाथ बंटाते रहे हैं। प्राग्धारा के इस स्वरूप के पीछे श्री गिरीश चन्द्र सिंह, सर्वेक्षण सहायक का कठिन परिश्रम छुपा हुआ है जिन्होंने मुद्रण की अवधि में अपने आपको इसके प्रति समर्पित कर दिया। संगठन परिवार के श्री राम गोपाल मिश्र, छायाकार और श्री बलराम कृष्ण, नक्शानवीस ने पत्रिका को चित्रों-रेखाचित्रों से उपयोगी बनाने में महत्वपूर्ण सहायता की है। इसके

अतिरिक्त अन्य सहकर्मियों तथा राजकीय अभिलेखागार के प्राविधिक सहायक श्री एम० आई० सिद्दीकी को जो भी काम सौंपा गया उसे उन्होंने तत्परता पूर्वक पूरा किया।

मेरा सौभाग्य है कि इतने अच्छे सहकर्मी मेरे साथ हैं।

पत्रिका के स्तरीय मुद्रण के लिए मेसर्स प्रतिभा प्रेस द्वारा प्राप्त सहयोग प्रशंसनीय है।

30 मार्च, 1992
लखनऊ

राकेश तिवारी
निदेशक
उ० प्र० राज्य पुरातत्व संगठन

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प्राग्धारा

PRĀGDHĀRĀ

ARTICLES

Rock art research and ethics

Robert G. Bednarik

It is quite impossible to provide in the space available here an adequate discussion of ethical issues in rock art studies, so I will limit myself to just three specific aspects: the ethics of recording methods, the ethics of sample removal, and the ethics relating to indigenous ownership of rock art.

Ethics in rock art recording

Although their significance has been over-emphasised in the past, rock art recordings remain an essential part of rock art studies. Today's students of rock art recognise that the taxonomies and stylistic designations we tend to impose on palaeoart are subjective, and relate to the graphic systems, perception and cognition of the investigator, not to the conceptual world of the artist. Nevertheless, the discipline cannot proceed without recordings. Many of the recording methods available today have been found to be harmful to rock art, and their use is now being discouraged or ostracised.

One such vandalistic method is the use of latex, plaster, papier mache, thermoplastic resin etc., to produce moulds, casts or negatives of petroglyphs¹. Another common method is to emphasise petroglyphs or rock paintings by outlining or filling them in with chalk². I have also observed a variety of other materials used for such purposes, including dye (in Siberia), lipstick (U.S.A.),

pencil (central Europe), felt pen (Australia) and paint (Scandinavia), to name some examples. Rock paintings are regularly sprayed with water to improve their colour contrast in both Asia and the Sahara, and in South Africa even motor oil has been used for this. When I raised the matter of water application at a rock art conference in India, I was told that a prominent archaeologist from Europe had instructed local researchers that the application of distilled water is not harmful³. As a result of this ignorance, thousands of rock paintings in central India are now coated with an opaque film of water-soluble salts deposited over them. Most Indian rock paintings occur in rock shelters of carbonate-cemented sandstone, so every time water is applied, minute amounts of salts are dissolved in the water, and precipitated on the surface upon evaporation of the solvent. It is irrelevant whether the water is distilled⁴.

The most pernicious form of rock art vandalism is that perpetrated by professionals, because in contrast to the vandalism of tourists with its fairly obvious effects, professional vandalism is more subtle and destroys the research potential rather than the rock art itself⁵. For instance, the use of chalk may result in the retention of motifs' susceptibility to nearly all of the currently known methods of direct dating of rock art; the CR method not only relates to the ratio of calcium to other ions, it also relies on the natural ratio between the carbon isotopes (chalk is 'radiocarbon-dead'). Carbonate contamination

would obviously preclude carbonate dating, and oxalate dating also relies on the carbon content of salts. Similarly, the dating of organic matter contained in silica skins assumes that there was no contamination by modern organic substances, free or bonded.

When I asked Latin American researchers at the 1987 Santo Domingo rock art conference to identify the white substance they used to emphasise petroglyphs, they described it as a 'degradable organic material'. In various parts of the world, thousands of square metres of petroglyphs have been daubed with an assortment of chemicals, all in the sacred name of 'science'. The pursuit of the inevitably trivial issues of these projects was considered more important than the preservation of the true research potential of the art. For instance, at the Centro Camuno di Studi Preistorici in Italy, hundreds of students have been instructed on how to daub petroglyphs 'professionally'; the filling in of Scandinavian petroglyphs with paint continues to this day; and the massive destruction archaeologists have wreaked on the rock art sites along the Lena river, central Siberia⁷, are some examples of this widespread problem.

Much to the credit of Latin American rock art researchers, the rock art of South America is among the best preserved in the world, second only to that of Australia. The Code of Ethics of the Sociedad de Investigacion del Arte Rupestre de Bolivia outlaws any form of physical enhancement of rock art, and is among the most commendable in the world.

The potential harm from recording techniques may not always be readily apparent to rock art recorders. While the mechanically damaging effect of petroglyph rubbings is obvious, it has been discovered only recently that rubbing of petroglyphs may change the chemistry in the rock surface or patina⁸. For instance, the cation-ratio is changed, which will distort the apparent CR age of the varnish. Genge⁹ has recently observed that the transparent sheets used to trace rock art are often susceptible to electrostatic phenomena. If they are energised by the movement of felt pens, pencils or even just fingers, the film attracts poorly attached flakes of rock paint loosened by the action of the recording instrument.

All these forms of interference either damage rock art, or they prejudice analytical methods of rock art studies which are in use now, or which may be developed in

future centuries. One simple rule applies to all rock art recording work: if it prejudices any potential future method it would be irresponsible to use it. No-one can predict what kinds of analytical methods future generations of researchers may introduce, hence no contact with rock art is justifiable. A variety of non-contact recording methods are available, and professional rock art vandals are either incompetent (not being aware of them) or unethical in their approach (by knowingly and deliberately compromising the analytical potential of rock art).

The ethics of sample removal

While archaeology has to obtain its stratigraphical information through the destruction of archaeological deposits, rock art research prides itself in being a non-destructive discipline. Apart from the vandalistic practices just mentioned, this is generally true. But there are some exceptions.

During the 1980s rock art students have begun to replace archaeological dating with methods of 'direct dating' of rock art. Archaeological dating relies on claimed correlative relationships between rock art and archaeological finds or deposits, which are no doubt valid in many cases, but which are based on essentially unfalsifiable assumption about stratigraphic integrity, stylistic or iconographically based propositions, and other unscientific arguments¹⁰. Techniques were sought for the dating of features that indisputably relate to the art physically, by being younger (such as cracks dissecting a motif, or precipitates deposited over the art), older (such as the surface supporting the rock art), or of the same age as the art (such as paint pigment)¹¹. The main methods developed are the dating of reprecipitated carbonates¹², the cation-ratio dating of rock varnish¹³, the dating of organic pigment¹⁴, the dating of organic paint constituents such as blood¹⁵ and the dating of oxalates¹⁶.

It is clear from the literature that there has been a burgeoning of techniques and a proliferation of dating projects in recent years, and I am confident that this trend will continue over the years ahead. All these methods involve the removal of samples, however tiny they may be. As long as they are used only on rare occasions, the extremely small quantities of deposit or paint sacrificed as samples can reasonably be

disregarded. For instance, at the time of writing, only nine AMS-dated pigment samples have been published worldwide. But as this new technology will become very popular among researchers, the methods will proliferate, and further analytical techniques are also used or being contemplated, such as extender analysis¹⁷, the analysis of fibres, organic dyes, binders and pigments, of animal proteins¹⁸ and brush remains, and the analysis of cosmogenic radiation products.

In view of these very recent developments it is essential that an internationally acceptable code of ethics regulating sample removal be created which can provide guidance to the relevant agencies in the various countries. While the flurry of research activity in the field of direct rock art dating is to be welcomed, it should be regulated by appropriate standards, preferably through a mechanism of self-regulation rather than authoritarian decision. Such a code must consider aspects such as first of all, the views and rights of indigenous tribal owners of rock art, cultural heritage protection standards, specialist opinions, research directions and realistic conservation targets.

One particularly relevant issue to be considered in the determination of an acceptable ethical standard is the question of the availability of alternative, non-interfering dating techniques. In the case of petroglyphs, such a method has just been proposed, and tested in Kerelia, Russia¹⁹. It involves no removal of samples, in fact no contact at all with the art, it requires no laboratory work, is extremely reliable, involves no costs and very little equipment, it can provide field results, and it is currently the only viable petroglyph dating method which is truly direct: it dates the manufacture of the motif, not some deposit or other associated phenomenon. Any code regulating the study of rock art will have to heavily favour non-interfering methods, and will predictably exempt them from the restrictions that may be imposed on other methods.

Indigenous ownership of rock art sites

Where rock art continues to play a traditional role in the belief system of an indigenous people, the indigenes remain the owners of the art, and the wishes, priorities and preferences of non-indigenes become subordinate. Researchers, in particular, have no moral, ethical or

'scientific' right to interfere with traditional patterns of utilisation of rock art by traditional owners, or to claim any exemption from the traditional rules pertaining the art or to the conduct of site visitors.

The Prime example is provided by Australia, where the tribal sociopolitical and sociocultural structures remain largely intact in several regions and where Aboriginal communities have often retained cultural affinity with the land and the sites of significance. The Australian Rock Art Research Association advocates Aboriginal custodianship of rock art sites, a goal which has been fully achieved in one state, and partly so in the remaining states. In South Australia, the Aboriginal heritage, including all archaeological sites, is effectively under Aboriginal control.

A significant ethical issue was the recent controversy in the Kimberley of north-western Australia, where there were attempts by researchers to prevent the repainting of rock art sites, based on their perceived 'heritage value'²⁰. In this kind of conflict it is requisite for scholars to reflect on the ethics of 'science' it is unscientific to influence the subject of one's study, and in the Kimberley case, we are dealing with a living culture. To dictate to traditional rock art owners what they should or should not paint amounts to an attempt of 'culture engineering' and a fundamentally unscientific outlook. I believe that if the artists choose to paint Donald Duck figures over the *Wandjinas*, scientists are to observe and enquire, but not to interfere in this example of cultural dynamics at work. And even cultural heritage managers, who of course are not scientists, can do little more than wring their hands in despair.

For Australian rock art sites, an elaborate grading system exists which defines their status in terms of sacredness. It ranges from highly sacred sites, which may only be visited by fully initiated men, and women's sites, to those of lesser significance. At most Australian rock art sites, no severe access restrictions exist, although custodians require certain standards of proper conduct. For instance, visitors must show respect at the art sites, they 'should whisper in the rock shelters'²¹, they must never touch the art, and they must not annoy the spirits present at such sites.

Indigenous affiliation with rock art sites remains nowhere as extensive as in northern Australia, but there are various other world regions where rock art researchers

may have to consider indigenous sentiments, in which case the Australian experience may provide a useful guide.

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Prehistoric Rock Art Pertaining to Fertility Cult and Other Subjects of Orissa

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Although convincing direct evidence for the religious beliefs of prehistoric communities are still wanting, whatever detail has been known about their religious practices seems to denote that they were somehow connected with the process of procreation among the human beings, or what is sometimes refer to in literature as fertility cult. The prevalence of stylised figures of Mother or Venus figures in the Upper Palaeolithic and subsequent prehistoric cultures can be cited as an evidence in support of the above hypothesis¹. However, comparable Venus figures generally do not occur² in the Indian sub-continent prior to the Chalcolithic period. Nor any other evidence indicating the prevalence of fertility cult among the Stone Age communities is available from any part of the sub-continent so far. In view of this the discovery of a group of six rock shelters in the Sundargarh district of Orissa, two of which containing somewhat peculiar triangular engravings identified by us as stylised depiction of female genital organs, becomes significant. The circumstantial evidence of the occurrence of microliths unassociated with any type of pottery and metal on the floor of the said rock shelters may denote that the engravings in question belong to Mesolithic culture. These engravings as well as primitive paintings found in the six rock shelters along with the microlithic industries form the subject matter of this paper.

With a view to studying prehistoric settlement in the Sundargarh district of Orissa, the region measuring

about 60 km and lying between the village Rajbahal in the north to Kanika in the south, roughly forming the western border of the district (Fig. 1) was selected by the present



Figure—1 : Distribution of rock shelter sites in the Sundargarh subdivision of Orissa.

author for intensive investigation during 1987-88. In the course of this reconnaissance, though hundreds of small and large rock shelters were encountered, yet only six yielded evidence for prehistoric occupation and artistic activities. Among these, two are located in the Ushakothi Reserved Forest near the village Rajbahal, one in Sukhabandh near Himgir village, and the remaining three in the Chhenga Pahar Reserved Forest, north of the nearest Kanika village. Out of these six shelters, only two, i.e. one in Ushakothi and the other in the Chhenga Pahar area yielded evidence for engravings. In the following pages the details of the findings are discussed.

Ushakothi Reserved Forest

This densely forested and hilly area is situated in the Lefripra Police Station of the Sundargarh subdivision, near the Sundargarh-Raigarh border. The site is located about 7 km north of the nearest Rajbahal village. The average height of this place is about 500 m above MSL. A good part of the Ushakothi Reserved Forest contains numerous hills of various dimensions. The author was informed by the local inhabitants that a very large number of rock shelters exist in these hills. However, due to inaccessible terrain and dense forest and the fact that several of these rock shelters have been inhabited by carnivores and other dangerous animal species it was not possible for the author with his meagre resources to examine most of them. In fact we could approach and study only two of these rock shelters, the details of which are given below.

Rock shelter — I

Perched on the top of a hill, this rock shelter measures about 20 m long and 3 m wide. With two openings, one facing the north and the other south, there is very little space inside the shelter, and thus hardly suitable for comfortable living. The shelter wall near the southern opening contains a panel of linear painted design, executed in purple red pigment. Except this, no other drawing was encountered in the shelter. The painting is partly weathered. Besides the above, the steep slope of the shelter has yielded microliths.

Rock shelter — II

This shelter is located about 200 m west of the Rock shelter—I. The outer wall of the shelter, facing east, contains four engravings (Fig. 2 : 1-4) and in the far left of

the same wall a series of linear strokes in purple red pigment probably executed with a crude brush.

Three of the engravings depict triangular forms with

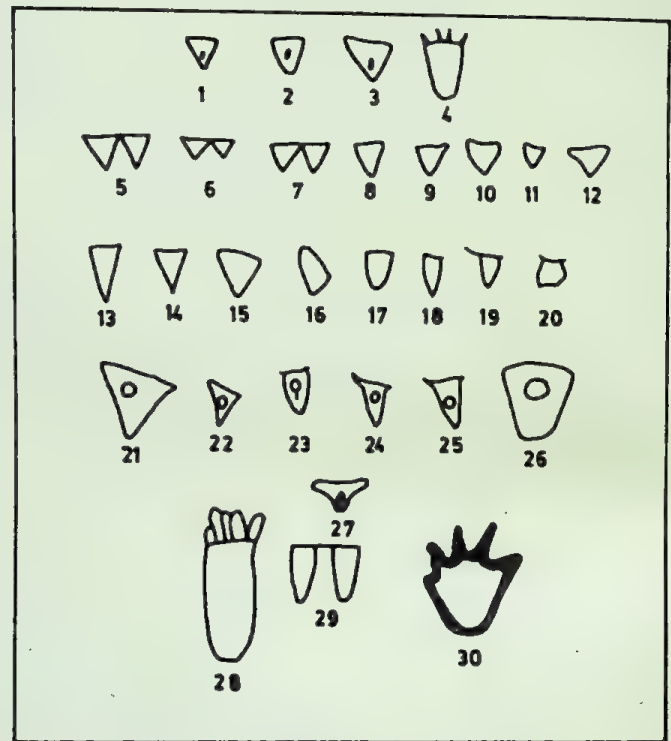


Fig. 2. Painted engravings in the rock shelters of Sundergarh.

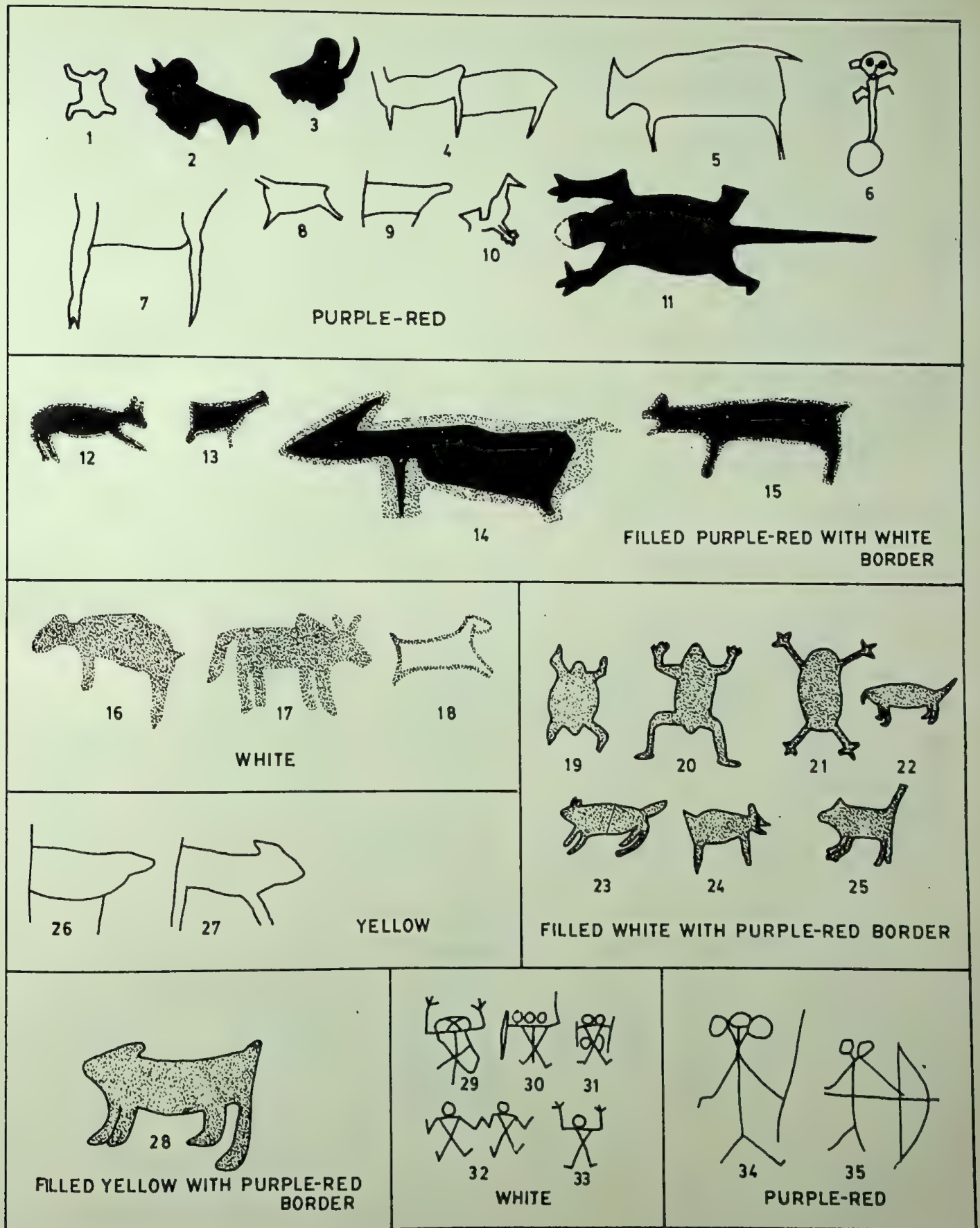
downward cones and small somewhat oval engraving in the lower-middle portion of each of these triangles (Fig. 2: 1-3). These peculiar forms seem to represent female genital organs. The fourth engraving (Fig. 2: 4), which appears immediately below the above mentioned three triangular forms, depicts perhaps a human foot with carefully engraved outline and four fingers. Subsequently, dark purple red pigment was also applied on these engravings.

Besides the above, the shelter floor has yielded a few microliths.

Sukhabandh

Situated in the dense forest, the rock shelter is located about 9 km west of the nearest Himgir village. It is comparatively a big shelter, measuring about 30 m in length, 4.5 m in width and a little less than 3 m in height.

A wide range of paintings executed in different shades of red as well as white pigments were found on the shelter



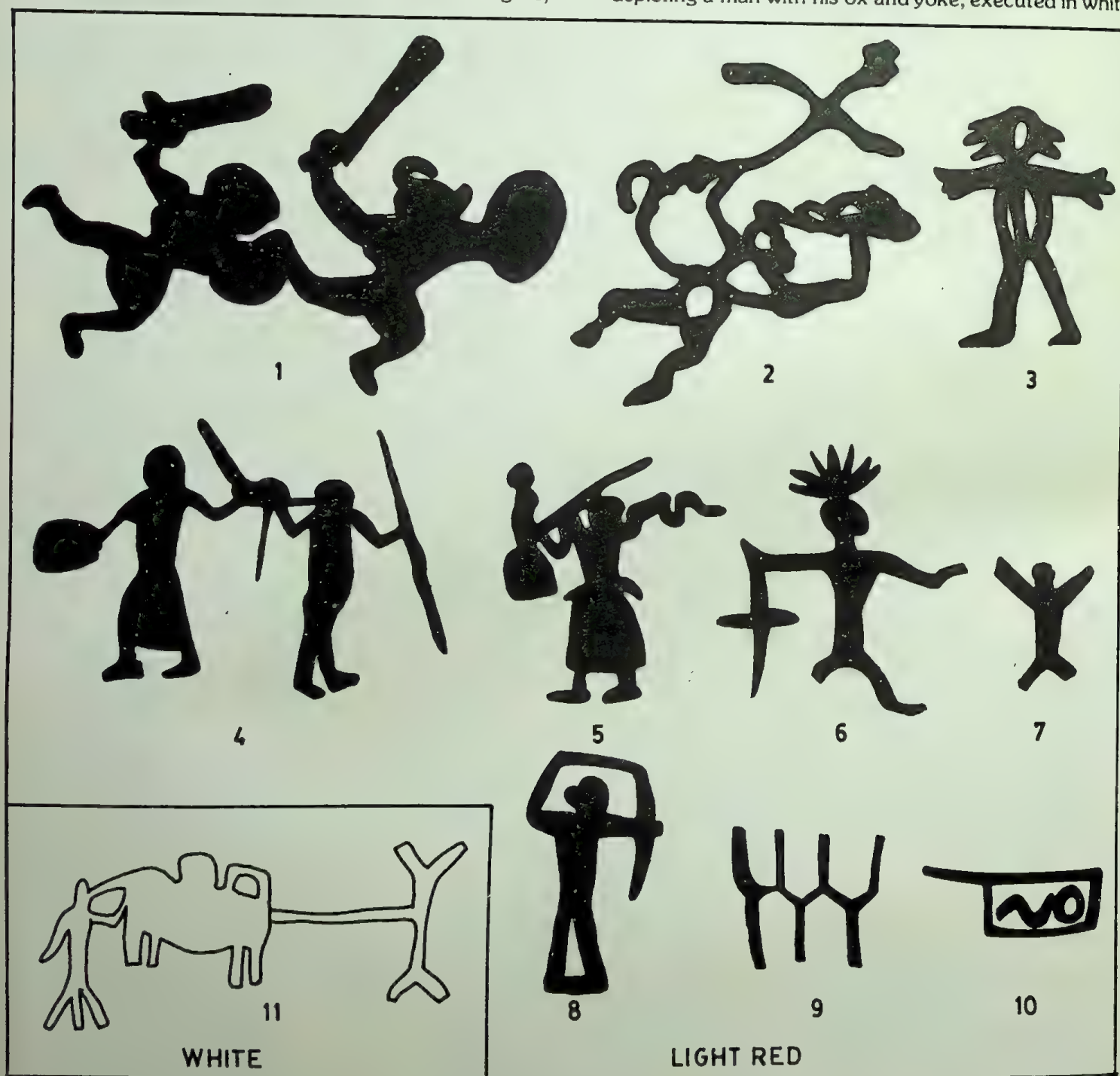
Figure—3 : Paintings of animal and human forms in the rock shelters of Sundargarh.

wall and a few also on the ceiling. The paintings depict 7 animal figures (Fig. 3: 2, 3, 6, 7, 17), 13 human figures (Fig. 3: 34, 35; Fig. 4 : 1-8, 11) and three miscellaneous forms (Fig. 4 : 9, 10; Fig. 5 : 8).

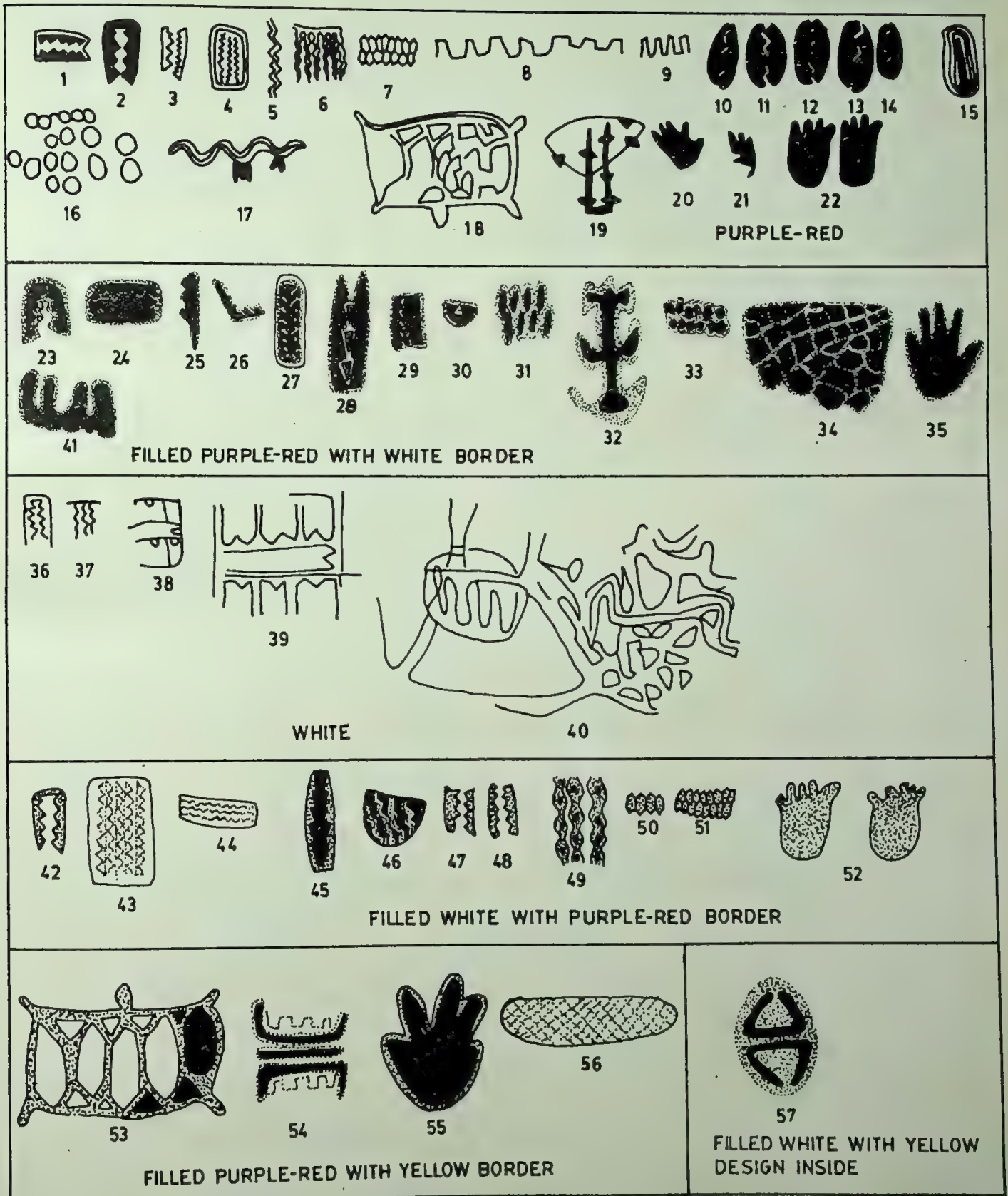
The animal figures are represented by 2 humped Zebu bulls, executed in the filled purple red; 1 partial line-drawing; executed in purple red; 1 complete line-drawing, in purple red; 1 fox (?), in filled light red; 1 headless figure,

in filled light red; and 1 humped ox (?), in filled white pigment.

The human figures include, 1 scene depicting two persons in flying position, armed with swords and shields, executed in filled orange colour; 1 couple holding pot and a plough-like object, in filled light red and perhaps represent farmer's life; 1 stylised line-drawing of a scene depicting a man with his ox and yoke, executed in white



Figure—4 : Paintings of human and miscellaneous forms in the rock shelters of Sukhabandh area, Sundargarh.



Figure—5 : Paintings of miscellaneous forms in the rock shelters of Sundargarh.

pig, ant; 1 flying *Hanumana*-like figure of the Ramayana tradition, in partially filled light red; 1 female load-bearer, in filled light red; 1 female archer, in filled light red; 2 wizards, in filled light red; 1 three-headed stick-shaped human figure holding a long staff, in purple red; 1 two-headed stick-shaped human figure holding bow and arrow, in purple red; and 1 stylised figure of a child, in filled light red pigment.

The miscellaneous forms include, 1 rampart-like linear design, in purple red; 1 hexagonal design, in light red; and 1 symbolic design, in light red pigment.

Besides the above paintings, the floor and the adjoining slope of this shelter have also yielded 226 microliths.

Chhenga Pahar Reserved Forest

The details of the cultural remains recovered from the three rock shelters located in this densely forested and hilly area, are as follows :

Rock shelter — I

This rock shelter, measuring 20 m in length, 4 m in width and 4 m in height, is located about 5 km north of the nearest Kanika village. It has yielded evidence for 26 engravings (Fig. 2: 5-30) and 6 human figures (Fig. 3: 29-33), besides a large number of microliths on the shelter floor and nearby slopes. The engravings and paintings are found on the inner wall of the shelter.

Except two engravings, which include the depiction of a human foot and a palm (Fig. 2: 28, 30), all others depict simple triangles (Fig. 2: 8-20), double triangles (Fig. 2: 5-7) triangles enclosing natural holes (Fig. 2: 21-26) and a solitary example of naturalistic representation of female genital organ (Fig. 2: 27). In all these cases, after engraving and rubbing off of the surface, purple red pigment was applied on the engraved lines. They are found randomly on the shelter wall, and do not form any pattern or panel. It should be noted here that the engravings found in the Rock shelter—II of the Ushakothi Reserved Forest show remarkable resemblance in form and technique with those of this shelter.

The stick-shaped human figures found in this shelter, occur randomly on the wall without being superimposed with the engravings. There is a striking homogeneity observed among these figures, as all of them are

executed in white pigment and are of small size. They include, 2 stick-shaped abstract-human forms with raised arms, having three fingers in each hand; 1 stick-shaped three-headed human figure with one raised arm and the other holding a staff-like object; 1 stick-shaped two-headed human with two circular objects one on either side of the waist and holding two staffs in both the hands; and 2 stick-shaped figures in dancing posture. All the above figures are stylised and appear in frontal pose.

Rock shelter — II

Located on the top of a hillock, this shelter measures about 20 m in length, 5 m in width and 4 m in height from the floor. Like the previous shelter, here also the figures are drawn on the inner front wall of the shelter within hand reach. The figures, executed in different shades of mineral colours, viz., white, purple red and yellow, include 7 animal figures (Fig. 3: 8, 14, 20, 21, 24, 16, 10) and 25 miscellaneous forms (Fig. 5: 6, 28, 45, 29, 47, 48, 9, 10-14, 32, 30, 49, 50, 16, 33, 34, 57, 41, 52, 55). Interestingly, the human form is absent. Besides, a few microliths were also collected from the adjoining slope.

The animal figures are represented by 2 frogs, executed in filled white with purple red border; 1 goat, executed in filled white with purple red border; 1 antelope (?), in filled purple red with thick white border; 1 lamb in filled white; 1 line-drawing of a headless animal, in purple red; and 1 line-drawing of a bird (?), in purple red.

The miscellaneous forms include, 2 human foot forms executed in filled white with purple red border; 1 human palm form, in filled yellow with purple red border; besides, there are various forms and pattern, viz., honeycomb patterns, harpoon patterns, floral patterns, wavy and zig-zag linear patterns, net patterns, filled ovals and circular forms, and a few undefinable symbolic designs. These figures have been executed either in purple red or in combination of white and purple red, and white and yellow pigments. The white and purple red pigments seem to be the most preferred combination for executing these figures.

Rock shelter—III

This rock shelter measures about 40 m in length, 2 m in width and more than 6 m in height. Altogether 50 figures were found on the inner wall of the shelter, which include 34 miscellaneous forms (Fig. 5: 36, 42, 23, 3, 2, 1, 24, 4, 43, 5, 25, 26, 27, 46, 7, 37, 15, 31, 51, 54, 53, 18, 17, 38, 19, 39,

56, 35, 20, 21, 40, 22) and 16 animal figures (Fig. 3: 1, 19, 11, 4, 5, 23, 9, 18, 15, 25, 26, 27, 28).

The animal figures are represented by 1 line-drawing of a frog, executed in purple red; 1 frog, in filled white with purple red border; 1 giant-sized lizard, in filled purple red; 1 pangolin, in filled white with purple red border; 1 running deer, in filled purple red with white border; 1 goat (?), in filled purple red with white border; 2 line-drawing of headless deer (?), in purple red; 1 line drawing of an antelope (?), in purple red; 1 running animal, in filled white with purple red border; 1 line-drawing of a stylised animal figure, in purple red; 1 line drawing of a running animal, in white; 1 deer, in filled purple red with white border; 1 cat (?), in filled white with purple red border; 2 line-drawings of animals, in yellow pigment; and 1 animal figure, in filled yellow with purple red border.

The miscellaneous forms include, 2 human foot forms, executed in filled purple red; 1 human palm form, in filled purple red with white border; 2 human palm impressions in filled purple red; 1 line-drawing of a house form, in white; and a variety of other patterns and enigmatic designs, like honeycomb patterns, net patterns, wavy and zig-zag linear patterns, saw patterns, and circular and oval patterns. These figures have been executed, either in purple red or white, or in combination of yellow and purple red, and white and purple red. Among these, figures drawn in simple purple red and those in combination of purple red and white occur in majority.

The Microlithic Industries

As noted above, all the rock shelters except that of Rock shelter—III of Chhenga Pahar Reserved Forest have yielded evidence for microlithic industries. Since none of these industries have been recovered from regular excavations, not only the material evidence is rather scanty but the collection can also hardly be termed as representative. In view of this, they have not been subjected to a detailed techno- typological analysis. The locality-wise distribution of lithic materials has been shown in the Table 1, wherein the artefact collection from the two rock shelters of the Ushakothi area have been treated as one, and similarly, the lithic materials from Rock shelters—I and II of the Chhenga Pahar Reserved Forest have also been counted as one industry.

The various macro-classes of the artefactual remains recovered from the six rock shelters clearly reveal that, first, the unrepresentative character of the assemblages, and second, the factory nature of the sites of this group. The occurrence of large number of cores as well as waste products is worthy of note. Almost all the cores fall under the category of typical bladelet cores. Similarly, the many flakes occurring in all the industries might have been produced in the course of core-dressing, and are rather diminutive, a mean of the length being around 24 mm. Thus, in spite of the presence of several flakes and some blades the industries under discussion are essentially

TABLE—I

ARTEFACT CATEGORY	USHAKOTHI RESERVED FOREST (Rock shelters — I & II)		SUKHABANDH Rock shelter (Rock shelters — I & II)		CHHENGPAHAR RESERVED FOREST	
	Nos.	%	Nos.	%	Nos.	%
CORE	47	15.77	44	16.86	129	16.58
FLAKE	89	29.87	66	25.29	87	11.18
BLADE	14	4.70	10	3.83	19	2.44
BLADELET	35	11.74	43	16.48	160	20.57
CHIPS	113	37.92	98	37.55	383	49.23
TOTAL	298	100.00	261	100.01	778	100.00

microlithic in character. The milky-quartz has largely been utilized as chief raw material (47.91%), followed by chert (28.21%), chalcedony (17.14%), quartz crystal (2.97%), agate (1.48%) quartzite (1.08%), red jasper (0.27%) and others (0.94%). The extensive use of quartz as raw material may be one of the important reasons for the large number of flakes in these industries.

The typological composition of the industries (Table 2) is rather intriguing, as indicated by the presence of burins, notch, denticulate, and side scraper in appreciable numbers. On the contrary the typical microlithic forms, viz., triangle, trapeze, and tools like backed bladelets, truncated bladelets, etc., occur in lower proportion than one generally expects to find in typical Mesolithic

industries.

Discussion

The foregoing details of the cultural material from the six rock shelters clearly indicate that in spite of the limited number of rock shelters discovered in the area of our study, they preserved some unique evidence for a variety of paintings and engravings, which on circumstantial basis may perhaps be assigned to the Mesolithic period.

The engravings:

To the best of our knowledge, there are no engravings in

TABLE—II

TOOL-TYPE	USHAKOTHI RESERVED FOREST (Rock shelters— I & II)	SUKHA- BANDH Rock shelter	CHHENG PAHAR RESERVED FOREST (Rock shelters— I & II)	TOTAL	
	Nos.	Nos.	Nos.	Nos.	%
Burin	4	4	3	11	7.97
Notch	6	3	2	11	7.97
Denticulate	2	4	2	8	5.80
Perforator	1	2	-	3	2.17
Side scraper	7	3	6	16	11.59
End scraper	-	1	1	2	1.45
Transverse scraper	1	-	-	1	0.72
Lunate	3	3	20	26	18.84
Triangle	3	4	-	7	5.07
Trapeze	-	1	-	1	0.72
Truncated piece	-	4	4	8	5.80
Backed piece	3	5	6	14	10.14
Unilaterally retouched piece	1	1	3	5	3.62
Bilaterally retouched piece	-	1	3	4	2.90
Partially retouched piece	3	1	1	5	3.62
Partially backed piece	5	-	-	5	3.62
Backed fragments	1	-	10	11	7.97
GRAND TOTAL	40	37	61	138	99.97

the Indian sub-continent outside Orissa which exhibit even slightest resemblance with those of our area of study. Under the circumstances it is only logical to call the engravings of stylised female genital organs and human palm and foot in a couple of rock shelters of Sundargarh as unique. It is indeed significant to note that all the above engravings have very smooth and shallow surface. This may indicate that they were either first chiselled by a pointed instrument, presumably made of a hard rock, and then thoroughly rubbed with the help of a stick (?), or they were made only by constant rubbing. In all the cases, dark purple red pigment was applied on the engraved lines.

The following points appear meaningful for assessing the significance of the engravings noticed in a couple of rock shelters of Sundargarh.

1. The two rock shelters, viz., that of Rock shelter – II of Ushakothi Reserved Forest and Rock shelter – I of Chhenga Pahar Reserved Forest, which have preserved almost similar evidence of engravings, are also associated with microlithic industries. The absence of any type of pottery may perhaps be taken as an evidence for the antiquity of the microlithic industries, which, though, contain some typical geometric shapes. It may be recalled that comparable pre-pottery microlithic industries have been reported from several rock shelters of Central India and adjoining regions³.
2. The female genital organs have not been represented in paintings either in Sundargarh or elsewhere in India. However, the paintings of human foot and palm are found in at least two rock shelters in our own region. Outside Orissa human palm has been represented rather frequently in the rock paintings of Central India⁴ and also in the Upper Palaeolithic cave paintings of Europe⁵. It also needs to be pointed out that some painted rough triangles found in Western Europe along with other Upper Palaeolithic paintings have been interpreted as representing female genital organs by Leroi Gourhan⁶.
3. The above observations may indicate an early date, perhaps Mesolithic, of these engravings. It is fairly certain that the representations of female genital organs indicate prevalence of some sort of fertility cult, which was perhaps the most ancient religious

belief of the mankind. The folk nature of this cult is obvious.

Recently, G.C. Mohapatra also examined one of the Several rock shelters of Ushakothi Reserved Forest⁷. It appears from description that the rock shelter, he visited, was different from the ones examined by the author, although, as per line-drawings given by him⁸, some of the symbols like simple triangles with groove in the centre, and palm seem to resemble in form with those occurring in the rock shelters discussed above. However, we find it difficult to agree with Mohapatra that the symbols found in the rock shelter of Ushakothi represent some archaic script, as, except for two symbols roughly resembling Brahmi *ma* and *ra*, none of them seems to represent any known alphabet forms. The resemblance of one or two symbols with Brahmi letters may as well be accidental. Surprisingly, Mohapatra did not find any cultural material in the Ushakothi rock shelter. In the case of the ones we examined in the same Reserved Forest the association of microliths is undisputed.

The paintings :

The paintings of the Sundargarh rock shelters are also unique at least in regard to one negative feature that the hunting and chasing scenes so common in Central Indian primitive rock paintings, are absent in this group. In fact most of the human as well as animal representations in our region are motionless. Since there is no evidence for superimposition of paintings in the rock shelters of Sundargarh, we are left with no other alternative but to consider the subject matter, style of representation and colours used in the paintings for some tentative deductions. Besides, the studies of rock paintings carried out by various scholars may also be taken into account for attempting a tentative grouping of the paintings of our region. Considering the above it appears possible to recognise two broad chronological groups among them.

The paintings of the first group (Fig. 3 and 5) consist of stick-shaped human figures, several monochrome as well as bichrome paintings of animal forms, viz., frogs, lizards, pangolin, deer, antelope, goat, lamb, bull, ox, etc. and a large number of miscellaneous designs and patterns, viz., straight, wavy and zig-zag lines, triangles, circles and ovals, honeycomb patterns, net patterns, floral, harpoon and saw patterns, house form, human palm and foot forms, and enigmatic symbols. The colours used in the paintings of this group are purple red, white and occasionally yellow ochre. Similar figures have been reported from various sites of Central India and have

been variously assigned by Wakankar to Mesolithic and Neolithic/Chalcolithic periods⁹. Most of these paintings also fit well in Mathpal's "Phase-C to F", belonging to his prehistoric as well as transitional periods¹⁰. Significantly, the depiction of certain animal figures, viz, bull, ox, goat and lamb in the paintings of this group, also strongly suggests a pastoral based subsistence economy of the people who inhabited these shelters. Similar evidence for pastoral rock art has also been reported in the Horn of Africa¹¹ and in East Africa¹², where pastoralism with a diversified herding, hunting, and fishing subsistence base was present by 4000 b.p. However, it needs to be pointed out that the author did not find any evidence of either Neolithic or Chalcolithic settlement, in the vicinity of these rock shelters, nor, to the best of our knowledge any Neolithic/Chalcolithic site has been reported by any other scholar so far from the area. The nearest Neolithic sites are located in the Bonaigarh subdivision¹³ of the Sundargarh district, nearly one hundred kilometres away from the rock shelters. Thus, we are at a loss to determine whether this group of painting can actually be associated with any Neolithic/Chalcolithic settlers to pursue pastoral way of life.

The paintings of the second group (Fig. 4) occur only in the Sukhabandh rock shelter, and include fighters with sword and shield, Hanumana-like human figure, load bearers, wizards, an archer, a domestic scene, two animal figures and two miscellaneous forms. The paintings of this group distinguish themselves on account of frequent use of light red ochre as pigment, naturalistic representations of human and animal figures, comparatively sophisticated dresses of human beings, and also on account of subject matter of some of the scenes.

To sum up, there is a strong circumstantial evidence to suggest that the engravings and also some of the paintings of the first group represent the aesthetic expression of the microlith using people who preferred to inhabit the rock shelters of Sundargarh, while many of the paintings of the first and second groups appear to belong to later periods. To test the above assumptions with regard to the better understanding of the contextual and temporal as well as spatial relationship among the paintings, engravings and microlithic industries, we require a thorough scientific investigation of the archaeological deposits of the rock shelters and other associated features of the area under study. However, despite limitations, the data gathered so far offer

potentially fertile avenues for future investigations.

Acknowledgement

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Rock Art Protection : Management

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Paintings and engravings on rock surfaces, available throughout the world and belonging to various periods of the history of mankind, are probably the most significant examples of man's earliest artistic and creative talents. India also abounds in rock art sites datable from prehistoric times. These rock art sites, which according to a rough estimate^{1,2} are more than 1000 in number, have been reported from various parts of the country and form an important and integral part of country's rich cultural heritage. Because of their historic, artistic, educational or scientific values, there are no two opinions that these sites are to be preserved for the future generations. Unfortunately, despite being one of the most important forms of cultural property, these are probably one of the most neglected forms of our national treasure. The reasons for this neglect are very many and it will be improper to attribute the present state of neglect and deterioration to any single cause. However, the fact can not be denied that in most of the cases it is the human action (in the form of vandalism) or non-action as a consequence of improper or insufficient knowledge about their conservation and management methodology which has immensely contributed towards their deterioration. The management and conservation of a rock art site is an extremely tedious task and not much expertize is available in the country at present. This article, therefore, attempts to explain the basic concepts involved in the protection of rock art sites.

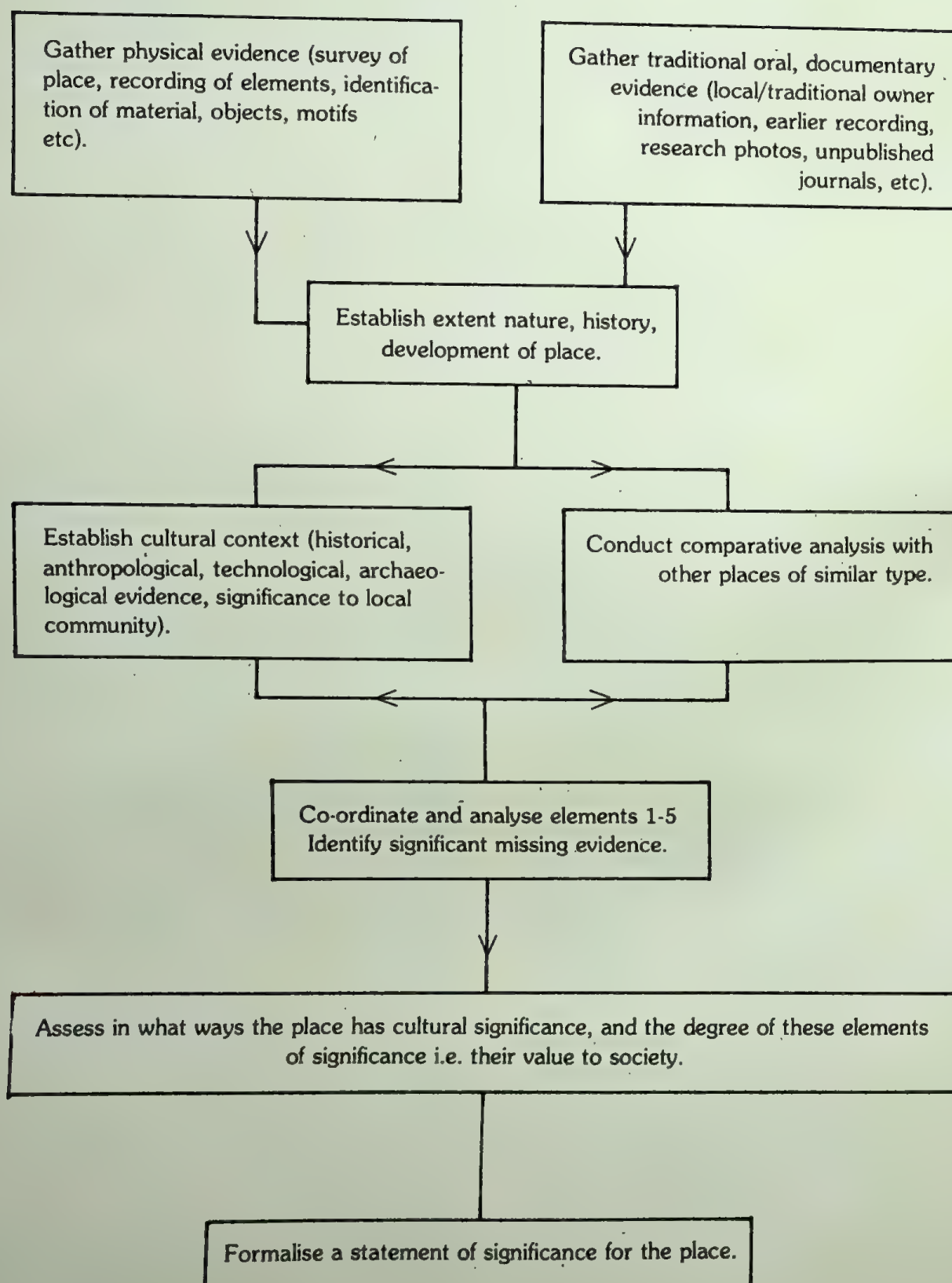
The whole task of protecting the rock art can be

conveniently divided into two headings, namely, management of rock art site and conservation of rock art. Conservation generally specifies the steps taken to prevent the deterioration of various components of the artform by slowing down the rate of decay and preserving the existing material. This aspect of rock art conservation is a highly specialized job and needs sufficient expertize on the part of the conservator to achieve good results and will be dealt in a separate communication. Nevertheless, out of the two aspects outlined above, it is the management aspect which assumes a greater significance in the context of rock art because it maximises the proper use of the site and helps directly in achieving the goal of conservation.

The management of rock art sites, apparently a simple task, is also a very specialized job and involves expertize in different disciplines like archaeology, anthropology, history, sociology, law, landscape, architecture, chemistry, etc. However, it is not necessary for a rock art manager to possess knowledge about all the disciplines mentioned above. The job can be accomplished by his acting as a co-ordinator of different specialists working for a common goal. The fundamental concepts which ought to be considered for a proper and effective management of a rock art site are described in the following paragraphs.

All types of rock art can be broadly divided into two classes namely pictographs (Pl. 1) and petroglyphs (Pl. 2). These differ basically in the form of their creation

Fig. 1 : Process of Assessment



pictographs refer to the paintings executed on the rock surface using pigments whereas in case of petroglyphs the designs or the motifs are carved on the rock surface using a sharp implement. Nonetheless, the problems posed by both the types of rock art, from the point of view of their management, are more or less the same hence the term rock art will be used here collectively to denote both forms of art.

The management of rock art is generally dependant upon its surroundings and is often referred to as Rock Art Site Management. Rock art management basically involves the control of all the elements which make up the physical and social environment of a rock art site. This management process may be aimed either at identification and evaluation of the value of site and conservation of the site.

The effective management of a rock art site involves several steps as follows :

1. Identification and Documentation of the site.
2. Assessment of site significance.
3. Design of management/conservation plan for the site.
4. Implementation of the appropriate management practices in the light of the management policy.

All the steps outlined above play a crucial role in the development of an effective management plan and will be considered in detail.

1. Identification and Documentation of a site :

Identification and documentation of a rock art site are the first steps in the formulation of a plan. Among these the documentation part i.e. recording of rock art is a very important step and great care should be exercised in its execution. Normally there are three aims of recording rock art, viz. scientific, artistic and managerial. Depending upon the aim, the method and extent of recording may vary. Various methods used for the recording of rock art have been discussed in detail by others^{3,4}.

2. Assessment of Significance :

The assessment of significance of the site is a very

important step in the management of rock art site and plays an important role in determining the course of action. It has two inter-related elements (i) why a particular site is important and, (ii) to what degree it is important. The process of assessment has been summarised briefly in Fig. 1. The significance of a site has four important elements, namely, aesthetic, historic, research and social.

2.1. Aesthetic value :

Generally in case of rock art sites, the combination of site and its setting enhances aesthetic value of both the elements in a synergistic manner. However, aesthetic value is greatly subjective and may change from person to person.

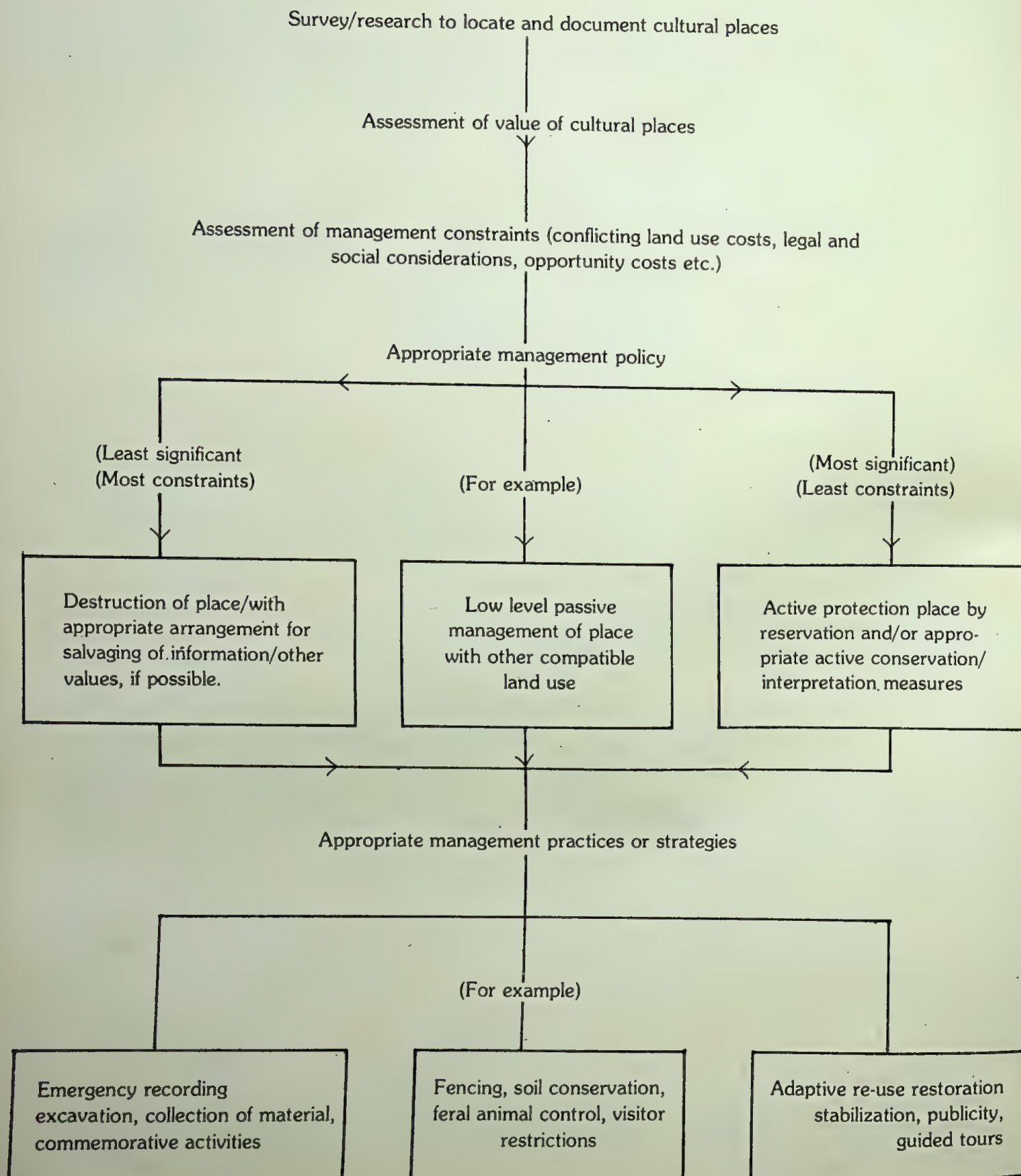
2.2. Historic value :

The rock art sites form part of our history and therefore possess sufficient historic value. However, their historic value depends upon the period to which they belong and the subject matter depicted therein.

2.3. Research value :

The research value of a site is also referred to as archaeological or scientific value and according to guidelines of the Burra Charter⁵, it will depend upon the importance of the data involved or its rarity, quality or representativeness and on the degree to which the site may contribute further substantial information. According to Schiffer and Gumerman⁶, the scientific significance is defined as research potential. Generally these art sites are very good indicators of cultural development of a particular period and its thorough archaeological and scientific study may throw a great deal of light upon the development of a particular civilization. The information thus gathered from a number of sites, when evaluated individually or in combination may reveal interesting aspects of our past. Moreover, many times the studies are found useful for the development of suitable scientific techniques required for a particular type of site. But most often it is possible to assess the research potential of a site than its research significance.

Fig. 2 : Heritage Management Plan



2.4. Social value :

Several sites may have a social value also as a result of its religiousness, contemporary value, being a part of a living tradition or having a special significance to a particular community. This type of value is very important and applies not only to the finest and best examples of rock art but also to relatively lesser known sites.

3. Design of a Management Plan :

Preparation of a comprehensive and effective management plan is the most important task which consists of evaluating the various options available vis-à-vis various constraints like funds etc. The process and the options can be represented as in Fig. 2.

In order to develop a well devised plan, it is necessary to incorporate all the elements in their basic sequence. If some of the key sequences are not adhered to, it may result in a poor decision making and may cause problem later. Therefore, it is necessary that a management plan deals in detail on the following elements :

- a. Statement of legal responsibility, philosophy and general policy.
- b. Site description and statement of significance.
- c. Statement of other values in the area of the site.
- d. Physical or environmental constraints.
- e. Threats to sites because of natural processes like surface erosion or human activities like visitor impact and vandalism.
- f. Community needs.
- g. Present and future usage of site.
- h. Comparison between management plans of various sites.

Based on the availability of aforementioned information it is possible to formulate a proper management policy which will ultimately determine how the cultural significance of the place may best be conserved and/or the damage be mitigated taking into account the various constraints. In general, it covers the policy for interpretation and use, management structure, investigation, physical intervention, salvage, monitoring and future activities. In real terms the formulation of a workable policy is quite complex and requires complete

attention and commitment of the responsible person or organization.

4. Management Practices :

The formulation of policy is to be implemented by putting into practice specific management practices. The strategy may outline man-power, resources, management structure, technical requirements, sequence and timing of various activities. Such a planning is essential for management but may vary from site to site depending upon the circumstances. Some of the management practices which may be considered in planning exercise are as follows :

4.1 Recording/assessment/research :

In most cases the information available about a site is incomplete and needs continuous upgradation, requiring continuing programme of information and data collection.

4.2. Physical conservation strategy :

This may involve preservation, reconstruction, restoration, adaptation or a combination of these processes.

4.3. Physical Protection :

This involves erection of fences, provision of fire control measures and restriction in the movement of animals etc.

4.4. Visitor Management :

The management of visitors should be carried out in such a way as to provide them maximum enjoyment of the site while minimizing risk to the site due to the visitors. It incorporates a range of techniques and tools like physical and psychological barriers, interpretive programmes and other necessary visitor facilities.

Threats to the site from the visitors can be in different forms :

Table 1 : Some common damages and their assumed reasons and possible solutions.

DAMAGE	GENERAL CAUSE	MOTIVE	SOLUTION
Designs chalked in Designs filled with sand Designs scratched in	C	For better visibility and photography	Sell slides/photos Handouts on photography Provide graphics of designs paint or regroove designs
Deliberate drawings and scratchings on rock (Inc. Names etc.)	A B C	Spontaneous Art Maliciousness : Frustration/Anger Over visibility Boredom. Experimentation.	"Don't sign; more interpretation, provision of graffiti board and/or Visitor's Book
Scratchings by motor vehicles, pedestrian activity, etc.	A B	Ignorance of existence of site; Lack of concern, Ignorance of effect of activity.	Signs; fences, directional fences.
Regroove/restoration	C D	Visibility, and desire to "preserve" drawings.	Education Interpretation.
Removal	C D	Greed, desire to preserve.	Educational Interpretation.
General attrition	D	Lack of direction; Lack of facilities; Misplacing of facilities.	Walkways, fences, moats, prickly bushes, signs.
Damage to facilities	A	Annoyance/disappointment with site	Make signs positive, well placed
Damage to environment of site	A B C D	Over use; Bad direction	Proper paths, directional fences, signs, capacity, management

Key: A = Deliberate malice/economic gain; B = Ignorance of existence of site; C = uninformed enthusiasm; D = mismanagement.

- decay by over use
- vandalism and graffiti
- rapid changes in micro-climate
- souveniring
- touching up or improving art?

Some common damage patterns, their causes and probable solutions are given in the table 17. The subject of management of visitors has been dealt in detail by Gale and Jacobs⁸.

4.5. Maintenance :

Regular maintenance of the site is very important as the site will decay over time at a faster rate without proper maintenance. A schedule for maintenance is the most efficient way of ensuring long term conservation.

From the foregoing account it is clear that the management of rock art sites is a very specialized subject and involves cooperation between different disciplines. It also requires a careful planning and complete involvement on the part of the authority concerned. The various elements of the management plan are to be considered afresh for each and every sites and evaluated in the light of the various options available and different constraints. The management plan thus generated could help in a big way to safeguard our rich heritage sites.

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Evidence of Megalithism in Southern Uttar Pradesh : Some Observations

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Although 'cairns' and 'sepulchral mounds' were reported from hilly tracts of the Mirzapur district of Uttar Pradesh as early as in the later half of nineteenth century¹, recent systematic investigations carried out in various parts of southern Uttar Pradesh have brought to light an unmistakable evidence for the practice of megalithism by certain groups of people in the distant past. It may be recalled that various types of megalithic structures belonging to the first millenium B.C. have been found earlier in an extensive area of peninsular India. The structural details and the associated material items of these megaliths along with other cultural patterns of their builders have been studied in detail by various scholars. However, it needs to be pointed out that the megalithic monuments known so far from southern Uttar Pradesh hardly exhibit comparable features with their counterparts in peninsular India. They not only differ in structural details and associated cultural equipments but also to a certain extent in chronological framework. In view of these distinctions, doubts may be raised on the prevalence of megalithism in the Vindhyan region including southern Uttar Pradesh.

Apart from the researches of the scholars of nineteenth century like Le Mesurier² and Carlleyle, the recent investigations carried out by the Allahabad University and the Banaras Hindu University have proved the existence of hundreds of megalithic structures in a considerably large area of southern Uttar Pradesh covering parts of Varanasi, Mirzapur, Allahabad and

Banda districts. The region lying between the Karmanasa and Chandraprabha rivers in Varanasi district was found to be particularly rich in megalithic structures, their concentration being around small hillocks like the Hathinia and Bhadhawan pahar. In the adjoining Mirzapur and Allahabad districts, a large majority of the megalithic sites is situated on the banks of the Jirgo, the Belan, the Seoti, the Pundiari, the Gorma, and other small streams. However, the location of megalithic structures in the Banda district appears to be somewhat different from those of the adjoining Allahabad and Mirzapur districts, though the former is yet to be thoroughly investigated. Here, most of the megalithic sites have been located on the slopes of various hills or alluvial plains, not always situated close to the streams. Habitation sites of the megalith builders were also noticed at a few localities in all the four districts.

A few sites located in different parts of all the four districts have been thoroughly investigated through excavations. They are Kakoria in the district Varanasi³, Kotia in the district Allahabad⁴, and Banimilia-Bahera⁵, Magha⁶, Baragaon⁷, Chhilahiya⁸ in the district Mirzapur, and Sarhat in the district Banda⁹. It is true that all these excavations were not carried out in a large scale, but they throw ample light on the architectural features as well as some other details of the structures of different sites, presumably belonging to different periods.

Although absolute dates of the various megalithic

structures of different sites are hardly available, the only exception being those of Kotia which have been dated to third century B.C. by radio carbon methods, a tentative chronological framework may be provided on the grounds of ceramic types associated with them. Broadly speaking, the megalithic structures of southern Uttar Pradesh can be divided into two. The first group of megaliths, represented by those belonging to the Kakoria complex in Varanasi district, those of Magha in district Mirzapur, and those excavated at Banimilia-Bahera again in district Mirzapur, appears to belong to a period prior to the advent of the famous Northern Black Polished Ware. At all these sites the dominant ceramic is a red ware, while black slipped ware and black and red ware occur in a limited quantity. Association of microliths has been claimed at Kakoria as well as Magha. The second group of megalithic structures has been excavated at Kotia in Allahabad district and Sarhat in Banda district. A time bracket of circa third century B.C. to the beginning of the Christian era may be tentatively assigned to this group. It may be pointed out that the pottery types of both the sites exhibit some resemblance, though they also appear to differ on a few counts. Association of iron implements is an important feature of the structures of this group. There is a third group also, the representative sites of which cannot be assigned to any of the aforesaid two groups, mainly because of the limited nature of work carried out at these two sites. Hence their period remains undetermined for the time being.

From the point of view of structural details, the megaliths of southern Uttar Pradesh appear to belong to three broad groups. In the first group may be put those structures which stand above the ground, and in their case, no pit of any type was found associated. The megaliths of Banimilia, Bahera, Baragaon and Chhilahiya, all situated in the Chunar tahsil of Mirzapur district, belong to this group. The general characteristic feature of the structures of this group appears to be a well-built or crudely built chamber with or without capstones and covered by stone rubble of various dimensions. On the contrary, the structures of the second group have pit in the centre which is occasionally lined by upright orthostats or by horizontally laid smaller stone blocks. Very often the entire structure is also covered by cairn of different sizes. The structures of Kakoria in Varanasi district, Kotia in Allahabad district and Magha in the district Mirzapur, belong to this group. Besides the above, there appears to be one more group of megaliths which

have been excavated at Sarhat near Manikpur in Banda district. The structures of this group are indeed unique, and to the best of our knowledge, comparable megaliths have not been reported from anywhere else in the world. In this case, houses of various dimensions with the stone-built foundations appear to have been converted into megalithic structures. Every example is covered by a low cairn, below which are found stone foundations of walls of the houses. Just close to these wall foundations appear a stone laid floor, below which were deposited skeletal remains, occasional charcoal and grave-goods contained in earthen pots. Though the use of massive stones which may justify the label megalith, is negligible in the structures of Sarhat, yet they seem to exhibit several other features of megalithic structure e.g., cairn cover, etc., and their association with the cult of dead is beyond any doubt. (Pl. 1-4).

Notwithstanding the structural distinctions, the megaliths of southern Uttar Pradesh seem to share some common characteristics. First, association of cairn is generally attested to almost at all the sites. Barring the examples of Sarhat and a solitary structure at Banimilia-Bahera and one other at Baragaon, in the centre of the cairn occurs either a chamber or a pit with or without stone lining, presumably for placing ritual objects and remains of the dead. However, the most striking common feature of these structures of this part of the sub-continent is near absence of the actual human remains. Irrespective of the form of structure, this feature is noticeable at all the sites. Of course at Sarhat the small quantity of bone is occasionally associated with some charcoal and from one of the structures, a charred tiny piece of bone was also found. In this case, one is justified to conclude that the structures represent post-cremation burials, but such an evidence is limited to the Sarhat examples only. Nowhere else there is any evidence for the occurrence of charcoal in the structure, nor any of the rarely found bone pieces exhibit any sign of burning. This gives rise to an obvious question whether there is sufficient proof to associate these structures with the dead and whether one is justified to term them as megaliths.

In spite of the above limitations, there appears to be some evidence which may justify the label megaliths for the structures of the region under discussion. First, one should take into account their occurrence in relation to the habitation sites. In most of the cases they occur in

large numbers, at times numbering several hundred, e.g. Banimilia-Bahera, mostly on the rocky terrains and very often at the foot or slope of hills, the habitation sites being somewhere in the radius of one to two kilometres. Second, their structure itself suggests their megalithic character. Everywhere in the world the megaliths contain either pit, lined or unlined by stones, or stone-built chambers above the ground, very often sealed by single or multiple capstones and covered by cairn. These very features are generally associated with the monuments of southern Uttar Pradesh also. Third, no alternative interpretation appears conceivable at the present which can assign these structures any other function. And fourth, there is reasonably sound literary as well as ethnographic evidence which denote that there has been a long tradition of constructing various types of stone structures associated with the ritual of disposal of the dead. Their mode of construction and the thinking associated with them may be found relevant for interpreting the evidence of megaliths of southern Uttar Pradesh.

The tribal scene in India is very diverse both in view of the economy of the tribes and the rituals associated with the disposal of the dead. Broadly speaking, Indian tribes may be divided into two economic groups – those practising agriculture and those depending on hunting and gathering for their survival. A very small number, however, also practices pastoralism. Their habitations occur variously in hilly tracts, forested regions and alluvial plains. However, it should be borne in mind that several tribes have neither been traditionally associated with alluvial plains nor they have been practising agriculture. The environmental change in their habitat and their economy appears to be a rather recent phenomenon. Various tribes follow different traditions for disposing their dead. But the economic structure of a tribe does not seem to have any bearing on their death rites. Thus, various tribes practising agriculture for their livelihood follow entirely diverse traditions for disposing their dead. The custom of burying the dead in pits appears to be very common among both the agriculturists and the hunter-gatherer tribes. However, some of the agricultural tribes simply cremate their dead and immerse the remains in nearby rivers. Most probably they have borrowed this pattern from the Hindus when they came in close contact with them during the process of learning cultivation. Besides these two, some of the agricultural tribes and also a few hunter-gatherers construct post-cremation burials for which they often use

various types and numbers of stones. In exceptional cases some hunter-gatherers just leave the body in the open and never care to collect the remains even afterwards.

Many of the Indian tribes having various types of economic patterns also erect memorial stones (*mēnhirs*) or wooden posts after burying or cremating their dead. It is significant to note, however, that a few tribes also construct memorial structures for their dead. For example, Crooke¹⁰ noted a peculiar custom among the Bhils of southern Uttar Pradesh, who form a part of the Bhil tribe of Central India. According to him, after three days of the cremation of the dead on the bank of a nearby river, “the ashes are thrown into the water, and a cairn is raised on the spot by the people present”.¹¹ This clearly means that the cairn so erected does not contain any human remains, and it is only a memorial to the deceased. Reference may also be made to the custom of *Savadne* prevalent in the Mahadev Koli tribe of Maharashtra¹². According to this custom, the body of the deceased is cremated and on the following day, the ashes are collected. “A house is now prepared for the departed soul which is done by placing stones in a ring all round the site. Bones are taken out of the ashes and the ashes thrown in flowing water. The bones are later carried to some holy place and relegated to the flowing waters of the river there.”¹³ Very clearly in this case also the structure is only a memorial and does not contain either human remains or any other material item. These ethnographic examples are certainly helpful in interpreting the archaeological evidence of megalithic structures as excavated at various sites of southern Uttar Pradesh.

The literary tradition of India informs us that the practice of burial making was as old as the custom of cremating the dead. It is generally accepted that the *suktas* 16 and 18 of the tenth book of the *Ṛigveda* are devoted to the practice of cremation and burial making, respectively. Reference to the use of a boulder (*Parvaten*) in a burial with a view to obstructing death from coming into this world¹⁴ may be taken as the prevalence of megalith building among some sections of the society. The *Śatapatha Brāhmaṇa*, while referring to the two traditions of burial making, informs in no uncertain words that the burials of the Vedic tradition (worshippers of gods) were in fact post-cremation.¹⁵ However, the monument should not be built immediately after the death, but it should be constructed after a long time when people do not even remember the number of years that

have passed since the death of a person. Although the four cornered monument prescribed for a worshipper of gods was supposed to contain cremated remains of the deceased, it might not have been always possible in practice to place the remains inside due to the long interval of time between the cremation and actual construction of monument. The whole idea appears to be to construct a four cornered stone memorial to the deceased which was enclosed with undefined number of stones (cairns).¹⁶ Almost similar account is also available in the *Kātyāyana śrauta-sūtra*¹⁷. According to Kane, there is a long passage of the *Brahma Purāṇa* quoted by Aparārka in which it is stated that "the charred bones of a cremated person should be collected in an urn and deposited at the root of a tree or cast in the Ganges, that the place of cremation should be purified with cowdung and water, that a *puṣkaraka* tree should be planted there or an *eduka* (a structure) should be built over it."¹⁸ Obviously, while prescribing the construction of an *eduka* on the place of cremation, the *Brahma Purāṇa* was referring to an ancient custom, since the tradition of building memorials of the dead was hardly in vogue during the time of the composition of this work.

The above brief account of the literary as well as ethnographic traditions indicates that three types of structures relating to the cult of dead have been constructed, and in both the traditions, there is enough evidence to deduce that several of these structures may be termed as megaliths in the present day terminology. First, there are primary burials in which the entire body of the dead is buried in a pit and a superstructure, usually made of stone, is constructed over it. Second, we have post-cremation burials. Very often but not always, the structure is built of stones. In the third category come such structures of stone which may be termed as memorials of the dead, and neither charred or uncharred bones, nor any grave-goods are put inside them. Stone menhirs and wooden posts erected by several tribes also come in this category. It may also be mentioned, however, that in ethnographic tradition, there is also a fourth category in which post-exposure burials are constructed. But this custom is rather rare among the Indian tribes. It is interesting to recall here that at least one of the verses of the *Atharvaveda Samhitā* refers to the practice of exposure of the dead body (*paroptā*)¹⁹. Echos of this ancient practice is also found in the *Mahābhārata*, sometimes in the form of tree burials²⁰. However, in these cases there is no reference to the construction of any structure on the remains of the dead.

In view of the above, the occurrence of charred or uncharred human bones as well as other grave-goods does not seem to be an essential feature of a megalithic structure. The necessary requirement is that it should be built of big stone blocks and there is sufficient reason to believe that it was related to the cult of dead. Thus, the non-occurrence or the scanty presence of human bones as well as pottery and other material items in the majority of the megalithic structures of southern Uttar Pradesh should not be taken as an unquestionable argument to doubt their association with the dead. Moreover, reference may also be made to a tribal philosophy for constructing chambers at the place of burial or cremation of the dead. G.S. Ghurye has drawn our attention to the fact that according to some tribes, the deceased also needs a house to live in the after world.²¹ The stone chamber is a replica of such a house. In fact, some of the tribes actually construct a thatched hut in the memory of the dead²². Probably similar custom is also referred to in the *Rigveda samhitā* when it mentions *bhumigriha*²³ in the sense of a burial.

The megalithic character of the Sarhat structures, which to the best of our knowledge, have no parallels so far, is not in any doubt. However, this is yet to be investigated whether actual residential houses were converted into post-cremation burials or the foundations of the walls unearthed below the cairn simply represent the tribal philosophy of providing a residence to the departed person.

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On the Trails of Narhan Culture

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Until recently the region of Sarayupar comprising the present-day districts of Basti, Gorakhpur and Deoria of eastern Uttar Pradesh and the district of Saran of north-western Bihar has been *terra incognita* so far as archaeological investigations were concerned. The area has been known for the hallowed presence of Lord Buddha who flourished in the sixth-fifth centuries B.C. showing a new path of salvation to the suffering humanity. What happened prior to the arrival of Lord Buddha on the scene was anybody's guess. Vedic literature is almost silent about the cultural history of this region except for a scanty reference in the *Satapatha Brāhmaṇa* which relates to the spread of the Aryan culture in this part of the country. We learn from this text about Videgha Mathava, the king of Videha, who accompanied by his priest Gotama Rahugana, carried the sacrificial fire from the bank of the Saraswati river eastwards, across Kosala and the Sadanira and established a settlement known as Videha after the tribal name of Mathava. During the life-time of Buddha several small kingdoms flourished in this region i.e., the Śākyaś of Kapilvastu, Mallas of Pāvā and Kuśinārā etc.

It was during the early sixties that sporadic archaeological investigations were conducted and several sites belonging to early historical times were located¹. Subsequently, as many as sixty-seven sites belonging to different periods were located in surface exploration by S. K. Bhatt² by which two yielded the Black-and-red ware. A Chalcolithic appellation to the

Black-and-red ware culture was given on the basis of limited excavation conducted at Sohgauna situated at the confluence of the rivers Rapti and Ami in district Gorakhpur³. However, the full ramifications of this discovery were known only by the recent excavations at Narhan conducted by the authors during 1983-88⁴. Based on the discoveries of this site the earliest culture was termed '**Narhan Culture**', adhering to the good old practice of giving a name to the culture on the name of type-site i.e. where it was discovered for the first time.

'Narhan Culture' representing the earliest inhabitants at this site has approximately 1 metre of cultural deposit. The inhabitants lived in wattle-and-daub houses. Remains of post holes and reed marks in burnt clay lumps, two successive floors, ovens and hearth have been found. Archaeobotanical remains obtained from the site indicate that the inhabitants cultivated two crops a year. The cereal grains of hulled and six row barley, club wheat, bread wheat, dwarf wheat and cultivated rice have been obtained. The pulses include pea, green gram, gram/chickpea, *khesari* and mustard oilseeds and flax/linseed also have been identified. The presence of all these cultivated grains indicates that agriculture was the mainstay of the economy of Narhan culture. Seed cotyledons of jack fruits and the seeds of yellow vetching and narrow-leafed vetch, the latter two growing as weeds in the crop fields are the other important discoveries. Thread impressions on a mud clod has revealed remains of ramie fibre. This type of ramie fibre is a common

occurrence in naturalised form in the forest of Gorakhpur district adjoining the border of Nepal and thus may be regarded as the probable source of fibre used for fishing thread at Narhan⁵.

Although the first settlers practised agriculture, meat was an important component of their diet as is evidenced from the presence of a large number of charred animal bones and antlers, some of them having cut-marks. In a limited collection of about 15% animal bones excavated during 1984-85 from Period I, bones of humped Indian cattle (*Bas indicus*), sheep-goat (*Ovis/Capra*), remains of a wild ruminant like deer or antelope (*Axis sp.*) and horse (*Equus sp.*) have been identified⁶.

After establishing the independent existence of Narhan culture, our main aim was to explore and find out its extension. Keeping this in mind, the present team started exploring the river Ghaghara (on which Narhan is located) upstream. We followed its first tributary Kuwana from the point of its confluence with the Ghaghara at Shahpur. The first phase of this exploration was conducted in February-March 1990 and the results have already been made available to the scholars⁷. This investigation brought to light 40 sites of which about a dozen belonged to the Narhan culture. The ceramic assemblage and other antiquities obtained in the exploration demonstrated their resemblance with the cultural deposits of Period I at Narhan. The second phase of our exploration conducted during April-May 1991 was concentrated on both banks of the Kuwana only. This investigation was started from Mukhlispur, about 20 km inside district Basti (from the border of Gorakhpur at Sikriganj), upstream and was continued up to Baxaie ghat. This resulted into the discovery of 18 sites of which 10 belong to Narhan culture (Fig. (Map) 1). During the course of exploration it was observed that :

1. The earliest settlers belonging the Narhan culture preferred to settle mainly on the banks of the river and not away from it. It may be noted that for avid agriculturist communities of this culture, water was of prime importance to sustain their crops.
2. Subsequently with the advancement of irrigation techniques the people of later periods could afford to spread out in the adjoining areas. It is our observation that sites of later periods are generally located comparatively away from the river bank.
3. The density of sites is less in the flood plains of the river as the annual floods would inundate and

damage the crops. Even today this area is sparsely populated.

4. It was also noted that the density of settlements in the area explored by us was comparatively more in the richer soil as compared to the areas where the soil is less fertile.
5. It was also observed that large settlements were located mainly on such spots where the river was comparatively more navigable. Incidentally these navigable places continued to be used as *ghats* in later times as well.
6. As compared to the Ghaghara which becomes terribly violent during the rainy season, Kuwana is a slow flowing and meandering river and it provided added attraction to the earliest inhabitants as their settlements and crops would not get damaged by annual floods.
7. Our exploration resulted into the discovery of stone chips and waste flakes of agate, quartz, chalcedony etc. (also collected by some earlier scholars and termed 'microliths'). However, a close analysis revealed that most of these flakes were debitage of beads. It may be added that some unfinished beads of agate were picked up by us from Tendhiya Baragaon.
8. Our exploration revealed that the number of sites on the Kuwana upstream from Basti town is greatly reduced. The river has been reduced to be only a small *nullah* to the north-west of Basti proper as it originates from that area, further up in district Bahraich. Obviously, the volume of water available in the river, particularly in the lean months was not adequate enough to sustain agricultural operations. This might perhaps account for the sparseness of settlements of Narhan culture in this region.
9. Our exploration revealed that Narhan related sites occur in clusters comprising four to five sites in each cluster (Fig. (Map) 1). The distance between such clusters varies from 3 km to 5 km.
10. This exploration does not exhaust all the Narhan culture sites in the region. It only emphasises the need of such field work which will provide a fuller picture of the extension of this culture. There is a strong possibility that Narhan related sites exist on other tributaries of the Ghaghara such as Manwar, Ami, Kathinaiya etc. and it calls for systematic and



Fig. (Map) 1—Explored sites in District Basti.

sustained work in future.

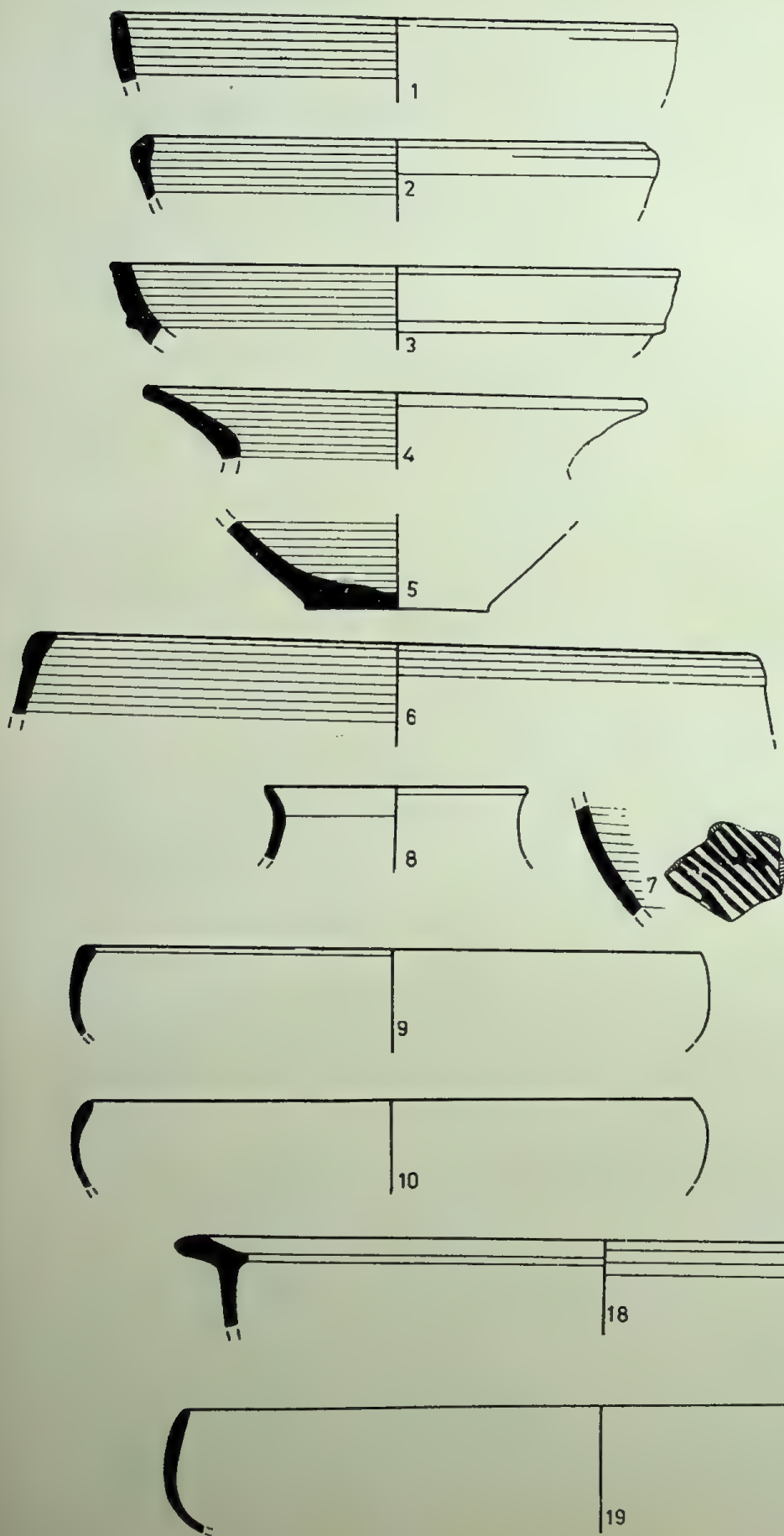
The names of the explored sites and their cultural outfit is given below.

1. Bankatwa/Banni

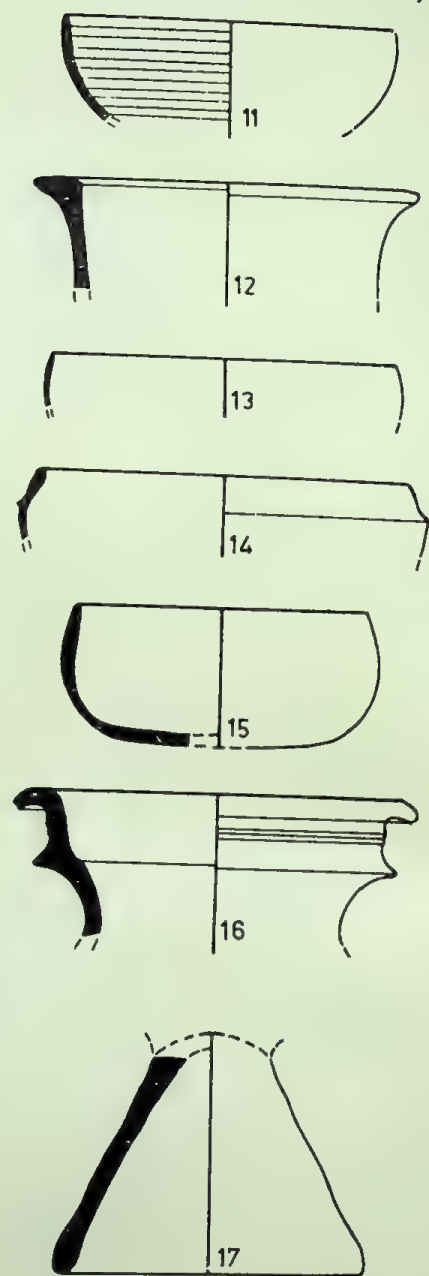
This site is situated 4 km east of Lalganj of the Lalganj-Mukhlispur dam on the left bank of

Kuwana river. It extends in an area of about 4 acres and is well preserved. There is no modern habitation or agricultural activity at the site. A stone sculpture of goddess Durga has been installed on the mound. The local inhabitants call this goddess Nakati Devi (probably Nakkati). Sherds of Black slipped ware, Grey ware and Red ware were recovered. Brickbats are scattered on the mound in a large quantity.

BHATOLWA (1 TO 10)



SISWANIA (11 TO 19)



0 5
CM

2. Banpur Kotiya

This mound is situated 7 km east of Lalganj on the Lalganj-Mukhlispur dam on the left bank of the Kuwana. About one fourth of the mound has been washed away by the river. Sherds of Black-and-red ware, Black slipped ware, Grey ware and Red ware were collected. The main shapes of Black-and-red ware are pedestal bowls and vases. In the Black slipped ware the main shapes are bowls and dishes. The potteries are similar to the ceramics of Narhan periods I, II and III. A Sunga plaque was found from the surface of the mound. The local inhabitants call this mound 'Kotiya'.

3. Bhatolwa

This mound is 17 km south-east of Basti town and 2 km south-east of Mahanso. It is a single chalcolithic site comparable with Narhan Mound-1. This settlement has been partly damaged by the Kuwana. It extends in an area of about 4 acres. Sherds of Black-and-red ware; Black slipped ware, cord-impressed ware, Grey ware and red ware were recovered. The potteries of this mound are well comparable with the ceramics of Narhan Period I.

4. Chanderpur

This mound is situated 2 km west of Lalganj in the Basti district. It is spread in an area of about 2 acres and comprises Black slipped ware and red ware only. This is a single culture settlement. Beakers of Black slipped and few terracotta beads are noteworthy finds. The fragment of Beaker is identical to the beaker of Black slipped ware of Narhan Period I.

5. Chando

This mound is situated near Mahanso about 18 km south of Basti town and 3 km south-west of Mahanso market on the right bank of the Kuwana. It extends in an area of about 12 acres. Only Sherds of Red ware were recovered. Kushana and Gupta bricks are scattered on the mound. Terracotta animal figurines, terracotta discs are the noteworthy finds. This mound is inhabited in the Kushana and Gupta periods only.

6. Chhardahi

This mound is situated on the Dhanghata-Faizabad road, about 3 km east of Kudarha. It extends in an area of about 12 acres. The present height of the mound is about 5 metres. Sherds of Black slipped ware and red ware were found from the surface. Antiquities comprising terracotta figurines, terracotta balls and agate bead are the principal findings. Brick structures and brickbats are scattered on the mound.

7. Chaura Kalan

This mound is situated on the Dhanghata-Faizabad Ram Janaki road about 4 km north of Para. It extends in an area of 6 acres. Sherds of Red ware were collected from the surface. Pieces of sprinklers and terracotta balls were also found.

8. Deoraon

This mound is situated on the left bank of the Kuwana about 7 km south-east of Basti town and about 2 km south of Sonupar on the Basti-Mahanso road. It extends in an area of about 20 acres. About one fourth of the mound has been washed away by the river. It represents a single culture settlement of chalcolithic periods only and is well comparable to the material of Narhan Period I. Black-and-red ware, Black slipped ware, cord-impressed ware and Red ware are the principal ceramics collected from this mound. Pedestal bowls, beakers of Black slipped ware, vases of Black-and-red ware and typical cord-impressed pottery of BRW are the principal types. Besides, stone chips were also collected in sizeable quantity which represent the debitage of beads.

9. Dhaurahara

This site is situated 9 km north of Belari near Ahani Tal in Basti district. This semi-circular mound extends in about 12 acres. Sherds of Black slipped ware, Grey ware and Red ware were collected from the surface. The small antiquities comprise pestles, Sunga plaque and net sinkers – all made of terracotta. Burnt bricks of Kushana and Gupta periods are scattered on the mound.

10. Gerar

This site is situated one km east of Lalganj, on the left bank of the Kuwana in district Basti. There are two mounds. The present-day Gerar village divides the ancient settlement into two parts. These mounds extend in a large area (about 30 acres). The ceramic collected from this site include Black slipped ware (coarse fabric), Grey ware and Red ware. These wares are well-comparable to the potteries of Narhan Period III, IV and V. Fragments of burnt bricks are scattered on the mound. This site was inhabited from the sixth century B.C. to the Gupta period. Earlier, this settlement has been listed as one of the Neolithic settlements of this area⁸.

11. Lalganj

This mound is situated on the ancient bed of the Kuwana to the north of Lalganj market. It extends approximately in 3 acres. The whole site has now been damaged by the activities of the Forest Department. It is a single culture settlement of Narhan Culture and comprises the Black-and-red ware, both plain and painted, Black slipped ware and Red ware. This assemblage is comparable to that of Narhan Mound-1.

12. Masjidia/Mahjidiya

This settlement is situated about 3 km south of Mahanso on the left bank of the Kuwana. About two-third of this mound has been washed away by the river. It is a single-culture settlement and comprises the potteries of Black slipped ware, Grey ware and Red ware.

13. Mundiari

This site is situated about 4 km south of Mahuli on the left bank of the Kuwana in Basti district. It extends in an area of approximately 1 km. This mound was inhabited up to the Gupta period. The potteries comprises Black slipped ware, Grey ware and Red ware. Dishes, bowls and beaker are main shapes in Black slipped ware. The small finds comprise terracotta plaques of Sunga period and pestles, beads and ball of terracotta. Burnt brick

structures of the Kushana and Gupta periods are visible on the surface. The present-day villagers are damaging the mound for bricks.

14. Pachra

This mound is situated 15 km west of Mukhlispur, on the right bank of the Kuwana. It extends in an area of about 8 acres. A well made of Kushana bricks can be seen at the centre of the mound. This settlement was inhabited during the chalcolithic, early historical and Gupta periods. Sherds of Black-slipped ware, Grey ware, NBPW and Red ware were collected from the surface. The Black slipped ware of this mound is comparable with that of Period II at Narhan. Terracotta pestles and terracotta figurines are the main findings. Burnt brick structures of Kushana and Gupta periods are visible in the western part of the settlement.

15. Sarai

This mound is situated 3 km east of Basti town on the Basti Mahanso road, on the left bank of the Kuwana. It extends in large area (about 15 acres approximately). Sherds of Black slipped ware and Red ware were collected from the mound. Burnt bricks are scattered on the mound in large quantities.

16. Siswania

This site is situated 13 km east of Basti town on the Basti-Mahanso road; on the left bank of the Kuwana. It extends in an area of about 5 acres. A modern temple of Ram-Janaki is situated on the mound. This mound has a cultural deposit ranging in date from the Chalcolithic to the Gupta periods. Sherds of Black-and-Red ware, Black-slipped ware, Grey-ware, NBPW and Red ware were recovered from the surface. Bone points; beads and figurines of terracotta are the main antiquities. Burnt brick structures of the Kushana and Gupta periods are present on the mound. Coins of different periods had been reported from the site earlier⁹.

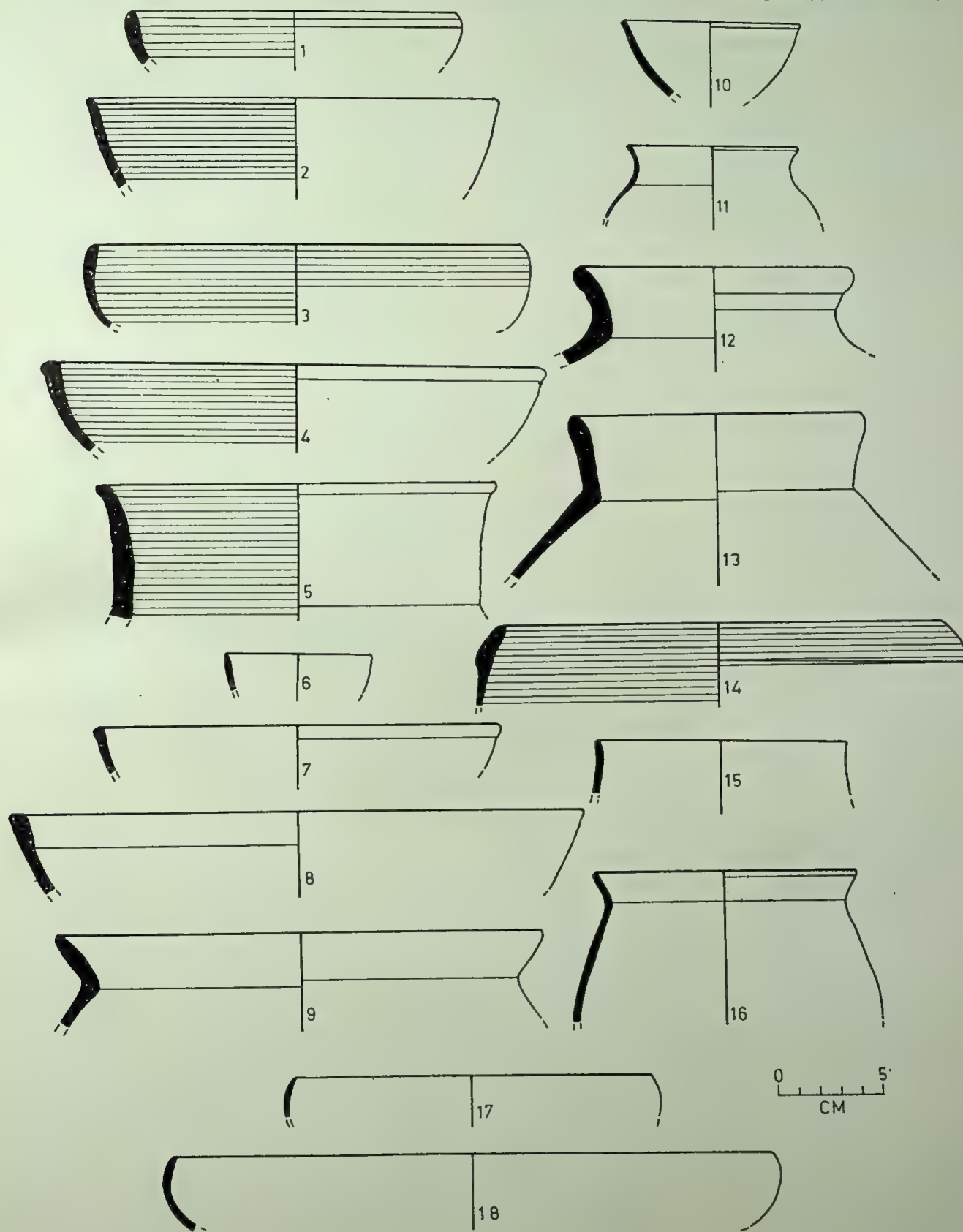
17. Susipar

This site is situated on the left bank of Kuwana

LALGANJ (1 TO 9)

DEORAON (10 TO 15)

SUSIPAR (16 TO 18)



about 2 km south-west of Mahanso on the Basti-Mahanso road. This is a single culture settlement and now completely damaged due to extensive agricultural activities of the villagers. As a result, the pot-sherds collected from this site are very small and comprise Grey ware; Black-slipped ware and Red ware. Stone chips were also recovered in large quantities. A close observation revealed that these are all debitage of beads.

18. Tendhiya Bargaon

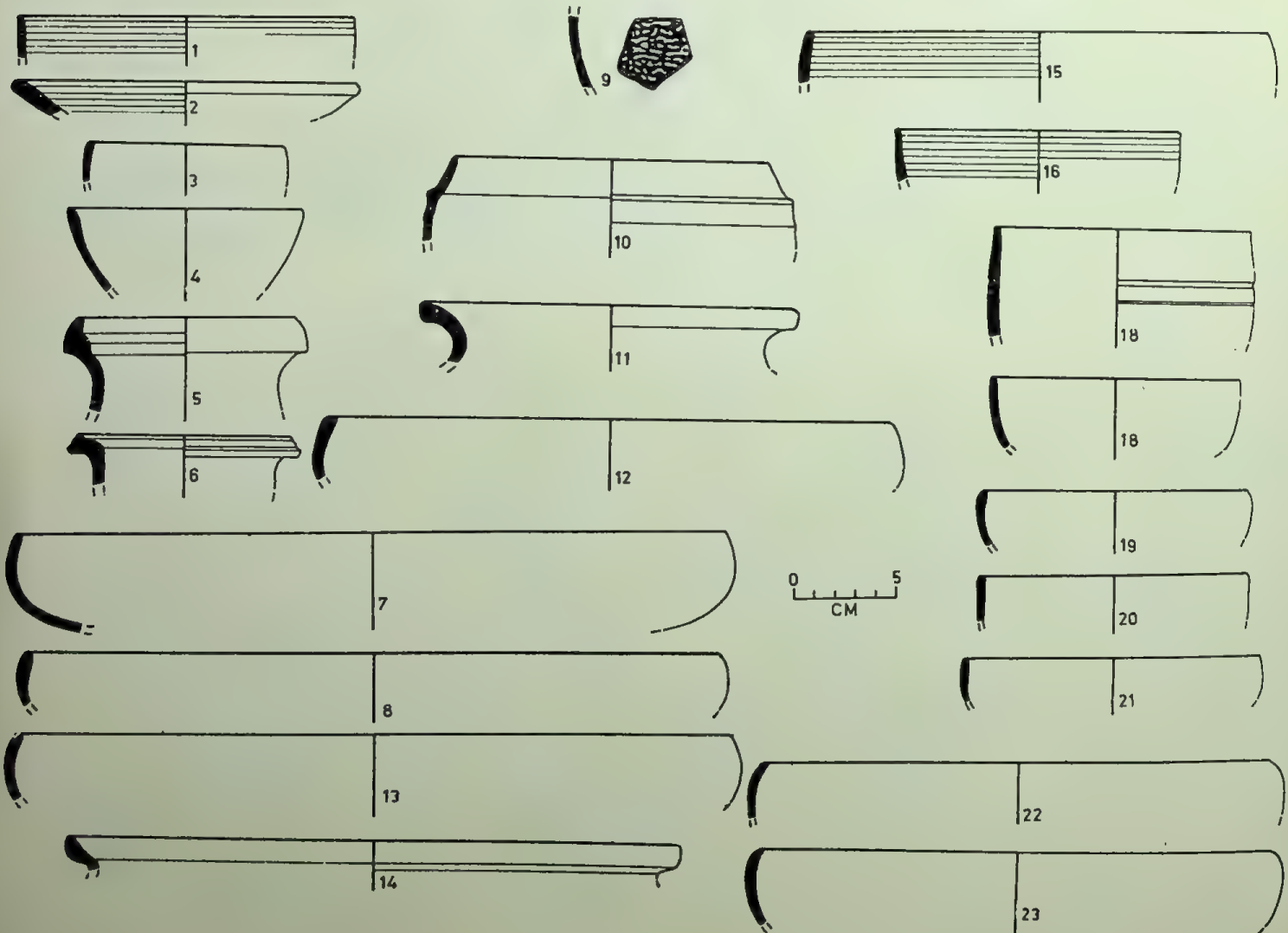
This site is situated about 20 km of Bokanare on the

Basti-Mahuli road. It is situated on the ancient bank of the Kuwana and it extends in an area of about 15 acres. There are two mounds at the site which have a cultural sequence ranging in date from the Chalcolithic to the Gupta periods. Sherds of Black-and-Red ware; Black-slipped ware, Grey ware, cord-impressed and Red ware were collected from the surface. Kushana and Gupta bricks are scattered on the mound. Stone chips (probably debitage) are visible in a large quantities on the surface. There is a present-day temple of Hanuman on the top of the mound. A sun image is standing in front of this temple.

BANPUR (1 TO 8)

GERAR (9 TO 14)

BARGAON (15 TO 23)



LIST OF EXPLORED SITES IN DISTRICT BASTI

Sl. No.	Name of the Site	Tehsil	Ceramic Industries	Other Finds	Previous Reference, if any	Remarks
1.	Bankatwa/Banni	Basti	Black slipped ware, Grey ware, Red ware.	Brickbats, Terracotta pestle, stone sculpture of a goddess probably Durga.	—	This oval mound extends in an area of about four acres. The whole mound is intact and its contours indicate that it contains a circular structure probably a temple or a stupa.
2.	Banpur Kotiya	Basti	Black-and-red ware, Black slipped ware and Red ware.	Broken Sunga plaques and terracotta bird figurine, Terracotta pestle.	—	This mound extends in an area of about eight acres. Its one fourth area was washed away by the Kuwana.
3.	Bhatolwa/Bankatwa	Basti	Black-and-red ware, Black slipped ware, cord-impressed Red ware and plain Red ware.	—	—	A single culture Chalcolithic site, partly damaged by the Kuwana.
4.	Chanderpur	Basti	Black slipped ware and Red ware.	Terracotta bead	—	The present day Chanderpur village is situated on the mound.
5.	Chando	Basti	Red ware	Terracotta animal figurine, terracotta discs, Kushana and Gupta bricks.	—	This mound extends in an area of about twelve acres.
6.	Chhardahi	Basti	Red ware	Terracotta pestles, terracotta human figurines, terracotta ball and Kushana and Gupta bricks.	—	It is an oval mound extending to a height of about 5 metres.
7.	Chaura Kalan	Basti	Red ware	Pottery discs and and terracotta ball.	—	This mound is semi-circular in shape.
8.	Deoraon	Basti	Black-and-red ware, Black slipped ware, Grey ware, NBP ware, cord-impressed Red	Terracotta dabbler, Stone chips/debitage of semi-precious stones.	—	A Chalcolithic site. This mound extends in about 20 acres, partly damaged by river Kuwana.

LIST OF EXPLORED SITES IN DISTRICT BASTI

9.	Dhaurahara	Basti	Black slipped ware, Grey ware, Red ware.	Terracotta pestles and net sinker; Sunga plaque and Kushana and Gupta bricks.		This mound extends in a large area.
10.	Gerar	Basti	Black slipped ware, Grey ware, NBP ware, cord-impressed Red ware and plain red ware.	Gamesman; pendant, pestles, human figurines — all of terracotta; Kushana and Gupta bricks.	<i>Man & Environment</i> vol. IX, 1985; pp. 101-108.	This mound extends in about thirty acres.
11.	Lalganj	Basti	Black-and-red ware, painted and plain Black slipped ware and Red ware.	—	—	A chalcolithic single culture settlement, totally damaged by the villagers while constructing an embankment on the Kuwana river.
12.	Masjidia	Basti	Black slipped ware, Grey ware and Red ware.	—	—	About two third area of the mound has been washed away by the Kuwana.
13.	Mundiari	Khalilabad	Black slipped ware and Red ware.	Beads, pestles, and human figurines — all made of terracotta.	—	This mound extends in a larger area of about one km. and was deserted during the Gupta period as settlements of later periods are missing at this site.
14.	Pachra	Khalilabad	Black slipped ware, Red ware, cultural assemblage comparable with that of Narhan Periods II and III.	Human and animal figurines; ball, bangles and pestles — all made of terracotta Kushana and Gupta bricks	—	This mound extends in a large area.
15.	Sarai	Basti	Black slipped ware and Red ware.	Brickbats only.	—	This mound extends in an area of about fifteen acres.
16.	Siswania/ Pachisa	Basti	Burnished Black and Red ware, Black slipped ware, NBP ware,	Sunga, plaque, pestles, beads and human figu-	<i>J.N.S.I.</i> vol. XLIV, 1982,	This mound is intact and extends in an area of about five acres. This

LIST OF EXPLORED SITES IN DISTRICT BASTI

		Grey ware, cord-impressed Red ware and plain Red ware.	rines — all made of terracotta, Bone points.	pp. 86-88.	settlement was visited earlier by B. R. Mani and Punch Marked, Unscribed cast and local coins have been collected from the surface.
17.	Susipar Basti	Black slipped ware, Grey ware, cord-impressed, Red ware and plain Red ware.	Stone chips, (mostly debitage) have also been collected from the surface.	<i>Man & Environment</i> vol. IX, 1985, pp. 101-108.	Single culture settlement. Now completely destroyed.
18.	Tendhiya Baragaon Basti	Black-and-red ware, Black slipped ware, Grey ware, NBP ware, Red slipped ware, cord-impressed Red ware and plain Red ware.	Stone sculpture of Sunga is housed in a modern temple.	<i>Man & Environment</i> vol. IX, 1985, pp. 101-108.	This mound extends in an area of about fifteen acres. A modern temple is situated on the mound. Stone chips (debitage) have also been collected from the surface of the mound.

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From Janapadas to Mahajanapadas— A study of Material Culture in the Gangetic Basin

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Sixth century B.C., the renaissance of ancient Indian history has been considered a turning point in social, economic, cultural, religious and political life particularly in mid-east Ganga basin. The heterodox movement emanating from this very region gave rise to a rich literary system which through incidental references imparts a wealth of information on contemporary life. It has been well demonstrated through these sources that transformations were in the ofing at this juncture in almost in every walk of life. It is at this very stage that references are found to Mahajapadas — a change from the status of Janapadas to Mahajanapadas. The '*Anguttara Nikaya*'¹ makes the earliest clear cut reference to the sixteen Mahajanapadas. They are said to have been in existence to the sixteen Mahajanapadas. They are said to have been in existence ever since the time of Buddha. Out of these only six of them are said to have risen to the status of Mahajanapada, rest are mentioned only as Japanadas². In the '*Mahaparinibban sutta*' in '*Diggha Nikaya*' there is reference of six important cities — Champa, Rajgriha, Sravasti, Saket, Kausambi and Varanasi, all capitals of Mahajanapadas. This may indicate that formation of Mahajanapadas was still in process at this stage.

The process of change, however, is still vague so far as the actual material culture, available to us archaeologically is concerned. No attempt has so far been made to analyse the cultural remains from excavated sites and see whether this fact is borne out by

material culture. Present paper seeks to fulfil this aim, albeit at a selected sites which have yielded information and reports make it possible to collect data required for comparative assessment.

It is presupposed that the growth of political system was preceded and supported by material prosperity. To quote Ghosh³, "In a sense, kingship itself a political system may be the result of an economic system that had developed in the early days of Bronze Age — the technological and economic background that made it possible should not be lost sight of." In this specific context too Ghosh asserts, "The establishment of the Janapadas — itself was the result of new society of the later Vedic Age, in which economic and political system both played their part, with the former perhaps remaining in the background to boost up the latter." It is worthwhile, therefore, to make an indepth study of material remains, a result of economic activity pertaining to the earlier part of 1st millennium B.C. This will demonstrate the process of transformation from Janapadas to Mahajanapadas. It is proposed to examine the archaeological remains from the six Mahajanapadas which are said to belong to the earlier of these political centres.

It is aimed to highlight the individual cultural component at different stages and at different centres for comparison. Though it may be admitted at the very outset that the data brought forth by excavations is by no

means exhaustive and does not permit a statistical comparison. However, it is sufficient to give a fair idea of growth pattern in specific areas. We may address ourselves to questions like, whether the literary references mentioned above are corroborated by archaeological evidences? Does the material culture as revealed through archaeological investigations suggest any revolutionary change at a specific point of time? Which are the areas of maximum change? What changes manifest themselves in economic or political milieu?

To answer the above questions, the archaeological data from the Mahajanapadas of Kashi, Magadh, Panchal, Kosal and Vatsa alongwith the sites in these political states have been studied in the minutest possible detail. A comparison will then be possible at different states i.e., from Black-and-Red Ware/Painted Grey Ware (BRW)/(PGW) (stage A) to Northern Black-Polished Ware (NBPW) (stage B) and so on. Stage A, represented by BRW/PGW culture, which has generally been identified with later Vedic period and is largely pre-Buddhist. Stage B is represented by NBPW although it has not been possible to separate the early and late phase of the NBPW at every site, but as would be seen towards the late NBPW phase, several novel features are added in the cultural scenario. With this background, we proceed to examine the key sites in the Janapadas of Mid and Eastern Gangetic Valley.

Mahajanapadas and their related sites

Excavated sites related with Mahajanapadas, which are under study, will be listed on the following pages, while dealing with individual Janapada describing the material culture of several Mahajanapadas.

Excavations have been conducted at several sites. Although we are handicapped by generally very small scale excavations that too only to vertical ones, but since this is the situation at most of the sites, a comparative assessment is possible and worthwhile. The main cultural components taken up for examination are settlement pattern, economy, terracotta objects, stone objects, bone objects, beads, other miscellaneous objects, metal objects, glass objects, seals, sealings and coinage etc.

MAHAJANAPADA - KASHI

Excavated sites

1. Kamauli

2. Khairadih
3. Lakhaneswardih
4. Masaon
5. Prahladpur
6. Rajghat
7. Sarai Mohana
8. Takia Par

Eight sites have been excavated in proximity of Kasi Mahajanapada but here, we shall give the material culture of this Mahajanapada on the basis of excavations at Rajghat⁴, Prahladpur⁵, Sarai Mohana and Takia Par.

STAGE - A

Settlement Pattern : The people of this period occupied their habitation in a smaller part of the mound. In this period they are confined close to river bank as is evidenced at Rajghat and Sarai Mohana. This period which lasted for about two centuries, did not yield any kind of structural remains. Probably they were poorly equipped and they did not build houses of durable material. Instead, they used perishable material like wood, bamboo, thatch etc. for the construction of houses.

Economy : These early settlers were agriculturists and cattle breeders. We have evidence of rice husk impression on the pottery. Large sized storage jars also indicate their use for storage of grains, and thus, attesting to agricultural activity, even though at a limited scale. The presence of the remains of the cattle pig, buffalo and sheep attest their cattle breeding.

Terracotta Objects : Terracotta figurines were rarely noted at this cultural level. The sites like Prahladpur and Sarai Mohana etc. have not yielded any terracotta figurines in this period but Rajghat yielded terracotta archaic mother goddess figurines.

Beads and other minor antiquities : Beads of terracotta and other semi-precious stones have been found in excavations. Prahladpur yielded two terracotta and beads of semi-precious stones like agate and carnelian. Rajghat also yielded beads of terracotta chert, paste and bone.

Other antiquities terracotta discs, terracotta cones, pottery discs, etc. have been attested to from Prahladpur, Rajghat, Takia Par, Sarai Mohana and

Masaon. In stone, fluted core of chalcedony has been noted at Prahladpur and a chert plaque from Rajghat. Copper bangles, pendant of quartz, crystal and shell and skin rubbers have been also recorded at these sites.

Metal Objects

A. Iron objects : Iron had already entered the economy of this period at some of the sites. The occurrence of iron slags and some finished objects like nail, blade and arrowhead have been found from Rajghat and Prahladpur. It seems that metal was locally smelted and the blacksmiths' craft was in vogue.

Copper objects : Copper has been attested in excavations. Rajghat has yielded copper objects.

STAGE-B

Settlement Pattern : There was an extension of the area of the settlement during this period. It appears, the settlement began to grow rapidly during this period. No evidence of housing activity has been recovered so far. The evidence of post holes, mud-plasters with reed impressions and burnt clay floors have been attested. It appears that they lived in the wattle-daubed thatched houses.

Among other structural activities of importance, mention may be made of sanitary arrangement like vertical pits of different sites, Kachcha drains, ring wells and soak pits etc. Ring-wells have been also attested at Prahladpur. At Rajghat, embankment, moat, streets, wooden planks and mud bricks have been recovered in this period.

Economy

A. Agriculture : Directly we have only evidence of rice, but indirect archaeological evidences trace the cultivation of wheat and barley. We have evidence of agricultural implements like axes and sickle which indicate a spurt in agricultural activity.

B. Animal Husbandry : The faunal remains of the period suggest the practice of animal husbandry on a substantial scale.

Terracotta Figurines : Both terracotta human and

animal figurines were in vogue. At Prahladpur, we have evidence of a bust of female figurine. Prahladpur yielded the figurines of horse, trunk of elephant, head of crocodile, head of sealion and head of ram. Rajghat yielded bull and elephant figurines along with human figurines.

Beads and other minor antiquities : We have a number of beads from this period. Rajghat yielded the beads of terracotta, bone, chert, paste, carnelian, copper, agate and glass. Prahladpur also yielded the beads of agate, carnelian, bone, jasper, lapis, shell and glass.

Amongst other antiquities, terracotta discs, cones, pottery discs, clay balls, stopper, pestles etc. may be mentioned. We have evidence of bangles of copper, bone and terracotta. Copper rings, terracotta necklace, torque's girdles, skin rubbers and combs have been found at Rajghat. In this period Prahladpur yielded spindle whorls and several stone objects.

Metal objects

A. Iron objects : A large number of iron objects have been found in excavations. One hundred and one iron objects have been reported from Rajghat, including sickles, axes, chisels, arrowheads and spearheads. Lumps of iron ores also have been found at Rajghat. Prahladpur and other sites have also yielded a considerable number of iron objects.

B. Copper objects : Copper was next to iron. Vessels, antimony rods, bangles, finger rings, borers, blades, rods, and coins were the important in copper objects. Copper ores and terracotta crucible have been also found at Rajghat. Prahladpur yielded only two objects in copper.

Stone objects : Stone balls, pestles, bowls, sharpener, discs, points, lids and designers etc. have been found made of sandstone, soapstone and opal.

Bone and ivory objects : Bone points, disc, combs and discs etc. have been attested at Rajghat, Prahladpur and other sites. A beautifully carved ivory dice and bead has been also reported in this period.

MAHAJANAPADA — MAGADHA Excavated sites

1. Kumrahar

2. Maner
3. Nalanda
4. Pataliputra
5. Rajgir
6. Sonpur
7. Taradih
8. Bodh Gaya

STAGE- A

Settlement pattern : In this phase no plan of house is found. In structural activities, we have evidence of lime floors and circular pits. So, we may imagine that the people of this period were living in the circular huts, as is evidenced by the Sonpur⁶ excavations. In the limited area excavated by late Shri A. Ghosh, there is a phase of BRW culture at Sonpur below NBPW but no details of material culture are available. Evidence of huts and remained earlier floor have been recovered among the structural activities from Taradih⁷.

Material Culture

Bone objects : Bone arrowheads, styluses, pins and beads have been reported at Sonpur. Socketed, tanged and barbed arrowheads, points and a chisel of bone was been reported from Taradih.

Stone objects : Neolithic tools and microliths have been found in excavation at Sonpur. Celt carnelian blade, a quern and four pestles and four balls have been found at Taradih.

Beads and bangles : Thirty one beads have been reported from Sonpur. They are fashioned with agate, bone, ivory, carnelian and terracotta. Taradih has yielded some terracotta beads.

Metal : The use of metal was rare. Sonpur excavations yielded only two pieces of copper objects. Iron was not in use, but iron lumps and slags have been found from the upper level of this period at Sonpur. A single bangle of copper has been reported. Taradih has yielded the ovens of different sizes, probably some of them for the melting of copper.

STAGE- B

Settlement Pattern : There was an extension of

habitational area. At Sonpur a slight trace of mud wall was noticed. At one place a platform was also encountered. Several terracotta ringwells were located, thus throwing welcome light on structural activity.

Terracotta objects : Several terracotta objects have been found. Terracotta human figurines have been reported at Sonpur and Rajgrih⁸. In other terracotta objects may be included animal figurines, birds, skin rubbers, ear-lobes, beads, naga figurines, toy-carts, wheels, dabbers, feeding cups, reels and votive tanks. All these finds have been recovered at Sonpur. Terracotta sealings have also been found at Sonpur. Terracotta ringwells have been reported from Taradih.

Stone objects : Sonpur yielded neolithic tools, microliths, hammer stones and dabbers. Besides, several miscellaneous stone objects like casket, weights, ear-lobes, miniature discs, dices and stone balls, have been found. Neolithic celts of different sizes have been reported at Taradih.

Beads and other minor antiquities : Sonpur yielded beads of agate, amethyst, bone, ivory, carnelian, chalcedony, shell, copper, crystal, glass, jasper, soapstone and terracotta. Taradih alone yielded the beads of terracotta and other semi-precious stones. Excavations have yielded bangles of copper, glass, stone and terracotta also. Bangles of copper bone and terracotta have been found at Taradih.

Bone and ivory objects : Bone and ivory objects have been attested to at Sonpur. Among the bone objects arrowheads, styluses, pins, antimony rods, hair pins and beads are important. Arrowheads and points of bone were reported from Taradih. Ivory was found in a considerable number.

Metal Objects

A. Copper objects : It was mainly used for making ornaments such as antimony rods, bangles, rings, earlobes etc. Pieces of miniature perforated pots, spoon handles, hooks, balls and nails etc. have also been found in excavations.

B. Iron objects : A good number of iron objects like lance, spearheads, arrowheads, daggers, axes, nails, chisels and blades etc. were discovered. This signifies a considerable advancement in the science of metallurgy

and also indicates a revolution in the economic life of the people of this period. Nails and leaf-shaped arrowheads have been reported from Taradih.

Coinage : Punch-marked, die struck and uninscribed coinage of silver alloy and copper have been reported in the late phase of this period at Sonpur. Punch-marked and rectangular copper coins along with crucible were also reported at Taradih.

MAHAJANAPADA — KOSAL

Excavated Sites

1. Sravasti
2. Ayodhya

STAGE — B

In this Mahajanapada the occupation was started with NBP culture in about 7th—6th century B.C. as is evidenced by the excavations at Sravasti and Ayodhya.

The structural activities at both the sites, in the period of NBPW were attested by the post-holes and large sized pits. At Ayodhya, in excavation conducted by Prof. Lal, remains of wattle and daub structures have been attested. So these evidences indicate that their houses were made of wattle daub and mud. There was no use of bricks in early phase of NBPW culture.

Economy : Not much information is available about agricultural activity and animal husbandry at Ayodhya and Sravasti.

Trade : Trade has been attested from the Sravasti⁹. The eyebeads of glass and beads of lapis found at Sravasti were valuable items of trade.

Terracotta objects : A few terracotta animal figurines have been recovered from Sravasti. A Jain figurine with bald head, distended ear-lobes and in 'Kayotsarg' pose is earliest Jain figurine of its kind. This is recovered from the level of 4th century B.C. at Ayodhya.

Bone and ivory objects : Bone points, arrowheads and drop pendants have been found from Sravasti and bone points from Ayodhya. Occurrence of extremely limited number of ivory objects indicate that they were precious and not commonly in use.

Beads and other minor antiquities : Ayodhya yielded beads of copper, crystal, glass and terracotta. Sravasti is one of the most important centres of bead manufacturing items in India. We have evidence of beads of terracotta, glass, carnelian, agate, crystal, amethyst, jasper, lapis, copper, bone and shell from Sravasti.

Among other minor antiquities mention may be made of bangles of glass, terracotta discs, balls, wheels from Ayodhya and Sravasti. Terracotta discs of Sravasti has sun and swastik symbols, cylindrical sticks and a large number of decorated tile fragments have been reported from Sravasti.

Metal Objects

A. Copper objects : Copper appears to be the chief metal. It was employed for making objects for decorative and household purposes which include bangles, ear-rings, pins and borers.

B. Iron objects : This metal was scarce. Nails, arrowheads and elephant-goad have been found from upper level of this period.

MAHAJANAPADA - PANCHAL

Excavated Sites

1. Ahichhatra
2. Atranjikhhera
3. Jakhera
4. Kampil
5. Kannauj

STAGE — A

Settlement pattern : The habitation in this period was confined to a similar portion of the mound. At Atranjikhhera¹⁰ this culture was confined to an area of 1000 sq. m. No detailed plan of any house could be traced in excavations. The evidence of mud bricks and burnt bricks have been attested to from Atranjikhhera, Jakhera and Ahichhatra.

Mud floors, mud walls and post-holes have been found. In other structural activities a low mud embankment, and a moat from Jakhera¹¹ and walls of reeds, plastered with mud mixed with rice husk, post-

holes and *Kachcha* well have been reported from Atranjikhhera, so it may be said that the houses were made of mud, wattle and daub. The use of mud and burnt bricks found at Atranjikhhera and Jakhera were sporadic.

Economy

A. Agriculture : Plant remains found at Atranjikhhera provide a valuable evidence on agriculture. Three important cereals, namely, rice, wheat and barley were cultivated. These people added a new cereal, wheat to the list of the food plants already known to them. The use of iron implements in agriculture was not attested at Atranjikhhera but a plough - share of iron has been found at Jakhera in this period. Evidence of animal husbandry is seen by bones of horse, cow, buffalo, goat, sheep, pig and dog have been found at Atranjikhhera.

Terracotta objects : From Atranjikhhera two animal figurines have been reported. Animal figurines have been also found at Ahichhatra. Only Jakhera has yielded three human figurines in this period. Among other terracotta objects game pieces, playing balls (ATJ), discs (ATU, Kampil, Jakhera), spindle whorls, stoppers, wheels, reels, net-sinkers and stands (all at Atranjikhhera) have been found. Terracotta dabbers have been reported from Jakhera.

Stone objects : Among stone objects, ordinary stone pieces, pestles, whet stones and small balls etc. have been recovered from Atranjikhhera.

Bone objects : Seventy one bone objects have been found at Atranjikhhera, including arrowheads, stylus, sockets, pendants, knitting needles broken comb spikes. Bone points have been found at Jakhera.

Beads and other minor antiquities : Thirty eight beads have been found at Atranjikhhera. Their materials are terracotta, glass and semi-precious stones. The other antiquities are glass bangles and fragments of shell have been reported from Atranjikhhera.

Metal objects

A. Copper objects : Copper was now used for more specialized purposes. It serves as a material chiefly for ornaments, toilet goods, decorative objects, kitchen

utensils etc. Kampil yielded copper pins and balls. Atranjikhhera yielded twenty two copper objects, including antimony rods, nailpeakers, pins, bangles, rings, fish hook, celts, clamps and dishes etc.

B. Iron objects : Iron has been used on a large scale. Atranjikhhera yielded hundred and thirty five iron objects, Jakhera also yielded a large number of iron objects, including first iron plough share in agricultural implements. Ahichhatra also attested the use of iron.

STAGE- B :

Settlement pattern : The area of habitation was more than preceding period. Atranjikhhera the major part of mound came under occupation (1127.76 m x 411.48 m x 6 to 20.5 m). In earliest phase of this period the houses were made a wattle and daub but gradually the use of mud bricks and burnt bricks take their place. The use of bricks has been attested at Atranjikhhera, Jakhera, Ahichhatra and Kannauj.

Among other structural activities may be included mud floors, ovens (Ahichhatra), *Kachcha* drain, mudwall, furnaces, mudbund, terracotta drain pipes, *Kachcha* wells, barn granary room and brick rooms etc. (ATJ).

Economy

A. Agriculture : In plant remains, rice, wheat, barley was in use. The use of urad, gram, Khesari etc. were in use in this period at Atranjikhhera.

B. Animal Husbandry : Cow, buffalo, goat, sheep, pig, horse and dog were domesticated.

Terracotta objects : We have evidence of terracotta animal and human figurines at Ahichhatra, Jakhera and Atranjikhhera. At Atranjikhhera we have found twenty one human figurines, including anthropomorphous figurines and thirty seven animal figurines of various animals.

Besides, toy cart wheels, terracotta wheels, terracotta gamesman, amulets, pendants, bangles, skin rubbers, stoppers, pestles and querns, dabbers, netsinkers and several other items have been recovered at Atranjikhhera. Three hundred and twenty five terracotta and two hundred eighty one pottery discs have been reported

from Atranjikhhera.

Stone, bone and ivory objects : Thirty two stone objects have been found at Atranjikhhera, including animal figurines, pestles, querns, grinders, discs, beads, balls and other miscellaneous objects. Ahichhatra also yielded few stone objects. Two hundred bone objects of several varieties have been found at Atranjikhhera. An ivory ear-stud has also been found here.

Beads and other minor antiquities : Beads of terracotta, glass and semi-precious stones are found in this region. In other objects glass bangles, shell bangles, small pieces of gold, a lead ball etc. have been found at Atranjikhhera. Beads have been also found at Ahichhatra.

Metal objects

A. Copper objects : Copper was attested on a wider range. Clamps, nails, antimony rods, nail pearers, rods, ferrules, sockets, tubes, beads, bangles, rings, animal figurines and pins have been reported from Atranjikhhera. Ahichhatra also yielded copper rings, nails and pins.

B. Iron objects : Iron was chief metal of this period. A wider use of iron has been attested to in this period. Ahichhatra has yielded several iron objects. Atranjikhhera yielded three hundred and thirty eight iron objects variously used as weapons, agricultural implements, craftsman's tools, household objects and ornaments. The use of iron was attested in building activities. A plumb-bob have been found at Atranjikhhera in upper levels.

MAHAJANAPADA - VATSA

Excavated Sites

1. Bhardwaj Ashram
2. Bhita¹²
3. Kausambi¹³
4. Sringeripur¹⁴

STAGE - A.

Settlement pattern : In this stage, we have no evidence of plan of house. But this Mahajanapada yielded evidences of roads, moats, ramparts. Mud bricks, floors and brickbats have been reported from upper phase of

this period at Kausambi. Though at Sringeripur, only, evidence of wattle and daub structures have been attested.

Material culture : We do not have an evidence of rich material culture. Bone points, bone arrowhead, pendants, beads of jasper, terracotta and gold have been attested at Sringeripur. Arrowheads of ivory and horn has been reported from Kausambi.

Metal : In metal, a limited number of iron objects have been found from Kausambi.

STAGE - B

Settlement pattern : In this period, we have evidence of rampart, moat, roads, drains, ring wells, traces of guard rooms, mudbund, watch towers, 'syenchiti' and water reservoir at Kausambi. Baked-brick structures have been reported from Bhita and Sringeripur.

Terracotta objects : Terracotta animal and human figurines and terracotta balls have been found in this region.

Beads : Beads of carnelian, terracotta, copper, glass, bone, gold and other semiprecious stones have been reported from Kausambi.

Ivory and bone objects : Bone styluses and bone points, are other notable objects. Bangles of shell, terracotta and agate are found.

Metal objects

A. Copper objects : Copper was the metal of household objects and ornaments and have been reported from Sringeripur and Kausambi.

B. Iron objects : Iron was metal of tools and implements. Arrowheads, spears, javelins, axes, chisels, adges, nails, rings, knives and clamp to faster the door were notable finds in this stage.

DISCUSSION

Although the data above is not exhaustive, as the excavations themselves are confined to vertical type and

to a small area, nevertheless it is possible to make a comparative assesment indicating growth pattern at diverse cultural stages on the basis of the above. There is a change in material culture of Back-and-Red Ware (11/1000 B.C.—7/600 B.C.) and Early Northern Black Polished Ware (7/600 B.C.—300 B.C.). This is adequately demonstrated from the data available.

By the middle of the first millennium B.C., the economy reached a respectable stage in every sphere. The settlement pattern, the smaller finds, the agricultural activity, they all indicate growth and comparative upsurge. There does not appear to be any revolutionary and sudden changes in the cultural pattern. The material culture appears to be persistently improving — slowly but gradually. No outside impetus is, therefore, discernible. The settlement pattern seems to be changing from small sizes in the beginning to bigger and extensive settlement in the succeeding phases. Similarly, the economy also seems to be growing. This is demonstrated in the evidence of agriculture, as well as trade commodities, that is the finer, luxury items as well as terracotta objects, like, beads, at Rajghat or Atranjikhhera show a relative proliferation both qualitatively and quantitatively from stage A to B.

There was an inter regional relationship between the major centres is also clear from the examination of material remains, certain varieties of terracotta figurines and beads etc. seems to have been a commodity of exchange. Rajghat, for example, was a big centre of beads manufacturing, some of which must have been for export to other cultural centres. The exquisite pieces of metal objects found at Jakhera are unique and could have been imports. Though we need to find exact source of such pieces.

The technology also seems to have advanced and may be seen by growing number and better quality of metal objects, from stage A to B. Such changes are seen even from early to late stage of NBPW at most of the sites. Copper is not confined only to small objects of ornament and toiletary but starts to be used for fashioning household utensils. Iron is employed for diverse economic activities and the number of objects also grows. It seems as the requirements of the society grows, the number and types of objects are manufactured.

Interestingly, the material remains show that it is region of Panchal as revealed by excavations at Atranjikhhera and Jakhera etc. which is the most prosperous both at the

Janapadas as well as the Mahajanapadas stages. Almost in every commodity examined, maximum number and variety is visible in this region. This fact, however, is not corroborated by literary evidences. Perhaps the imperial power of Magadha had overshadowed the material prosperity and its appreciation. It may also be argued that the area covered by Magadha was the main cause of its supposed superiority over other states. A word of caution, however, is necessary here. The material remains available to us for study is not uniform from every site — neither area covered by the excavations nor the level of preservation is the same. Nevertheless, on the present reckoning, we arrive at the above conclusion. It may not be exact but relatively speaking assumable.

We may safely conclude that the Janapadas, i.e., the relatively bigger centres as Patanjali's reference of residence of desert people had attained a level of economic prosperity which required an organisational set up and perhaps a political force. The growing economic and technological advancement must have acted as a backbone of socio-political system transforming the Janapadas to Mahajanapadas.

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Trial digging at Dhuriapar

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Location

The ancient settlement of Dhuriapar (Long 83°14'30" E; Lat. 26°25'25" N.) is situated on the left bank of the Kuwana river about forty-six kms. south of Gorakhpur. The ancient settlement presently spreads over a length of about 1.5 km. along the river bank and is occupied by three small villages viz., Jagdishpur, Vasudeopur and Dhuriapar. According to the local tradition, the history of the present settlement began with the invasion of Kaushika Kshatriyas under their Raja Dhurchand who established a fortified settlement in the middle of the 14th century. This settlement was named Dhuriapar after the name of its founder Dhurchand.

The Problem

While conducting archaeological excavations at Narhan, about 25 kms east of Dhuriapar in 1984-88, the present authors had seen this site. This site had also come in prominence as a medieval sculpture presumably representing the various incarnations of Lord Vishnu was stolen from this site in January, 1987. Hence, at the request of local inhabitants the present team explored this site. It was found that the earliest ceramic industries available at this site are the Black-and-red ware, Black slipped ware, NBP ware and red ware. Bowls and dishes of Black slipped ware and vases of Black-and-Red ware

are the principal shapes. This mound was inhabited upto the Medieval period. Burnt brick structures of Kushana and Gupta periods were seen in the eroded sections of the mound. Besides, our excavation at Narhan had revealed the existence of an altogether distinct culture termed by as 'Narhan culture' datable between 1300 B.C.-800 B.C. Therefore, the next logical step was to determine the extent of Narhan culture. The occurrence of Black-and-Red encouraged us to undertake trial excavation of this site so that full potential of this settlement could be assessed. In order to fulfill this aim, five 3m x 3m test pits were excavated by us in different parts of this mound (Fig. 1) in a five week period in April-May, 1991. The main results of this trial excavation are enumerated below.

The total cultural deposit measuring between two to five metres has been divided into five periods which are as follows.

Period I (Circa 1300 B.C. to 600 B.C.)

This period is represented by Black-and-Red ware with linear paintings in white (having pedestal bowls, basins and vases as the main types); Black-slipped ware (main types, bowls and dishes); Grey Ware (main types, bowls and dishes) and Red ware (bowls and vases). The small

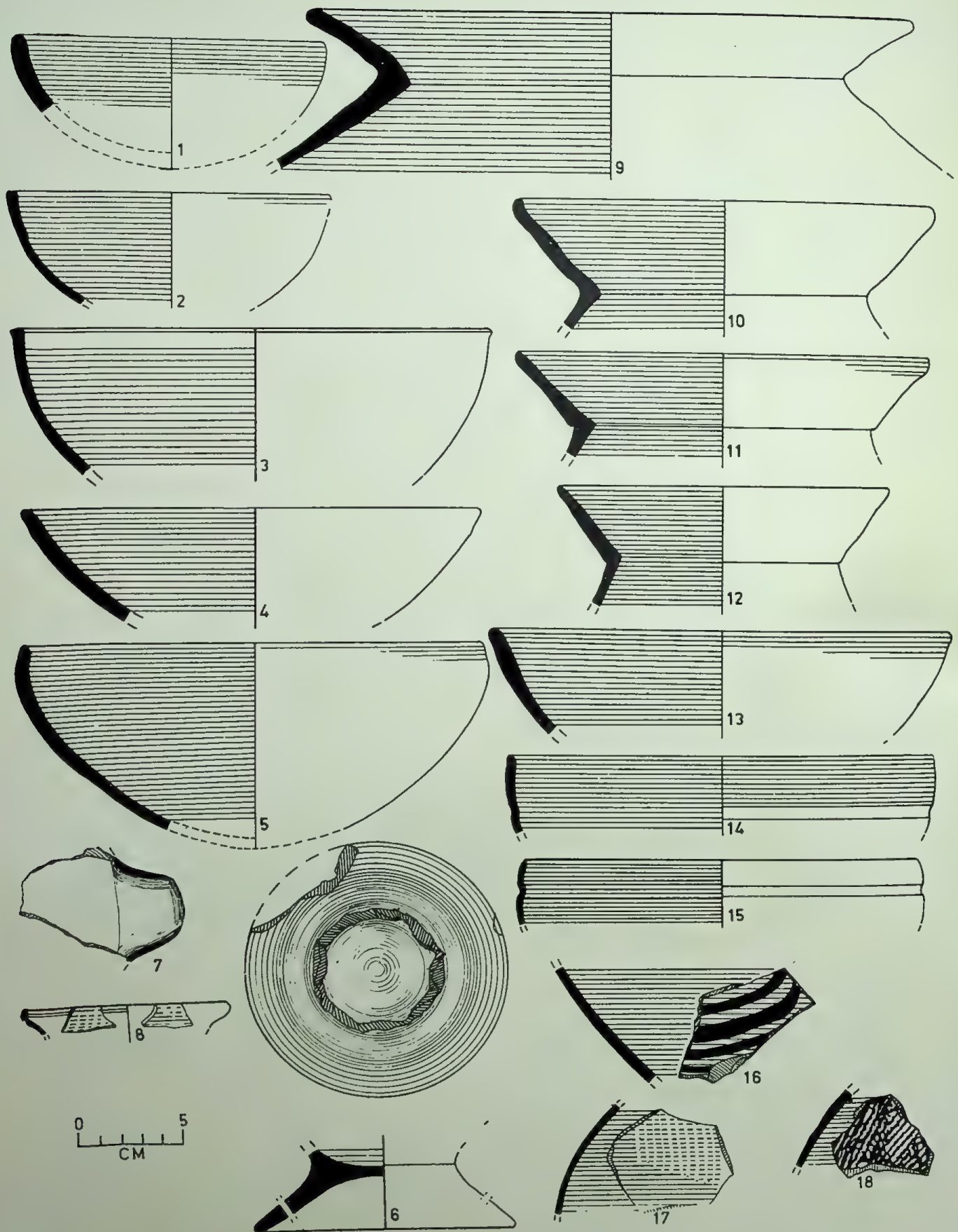
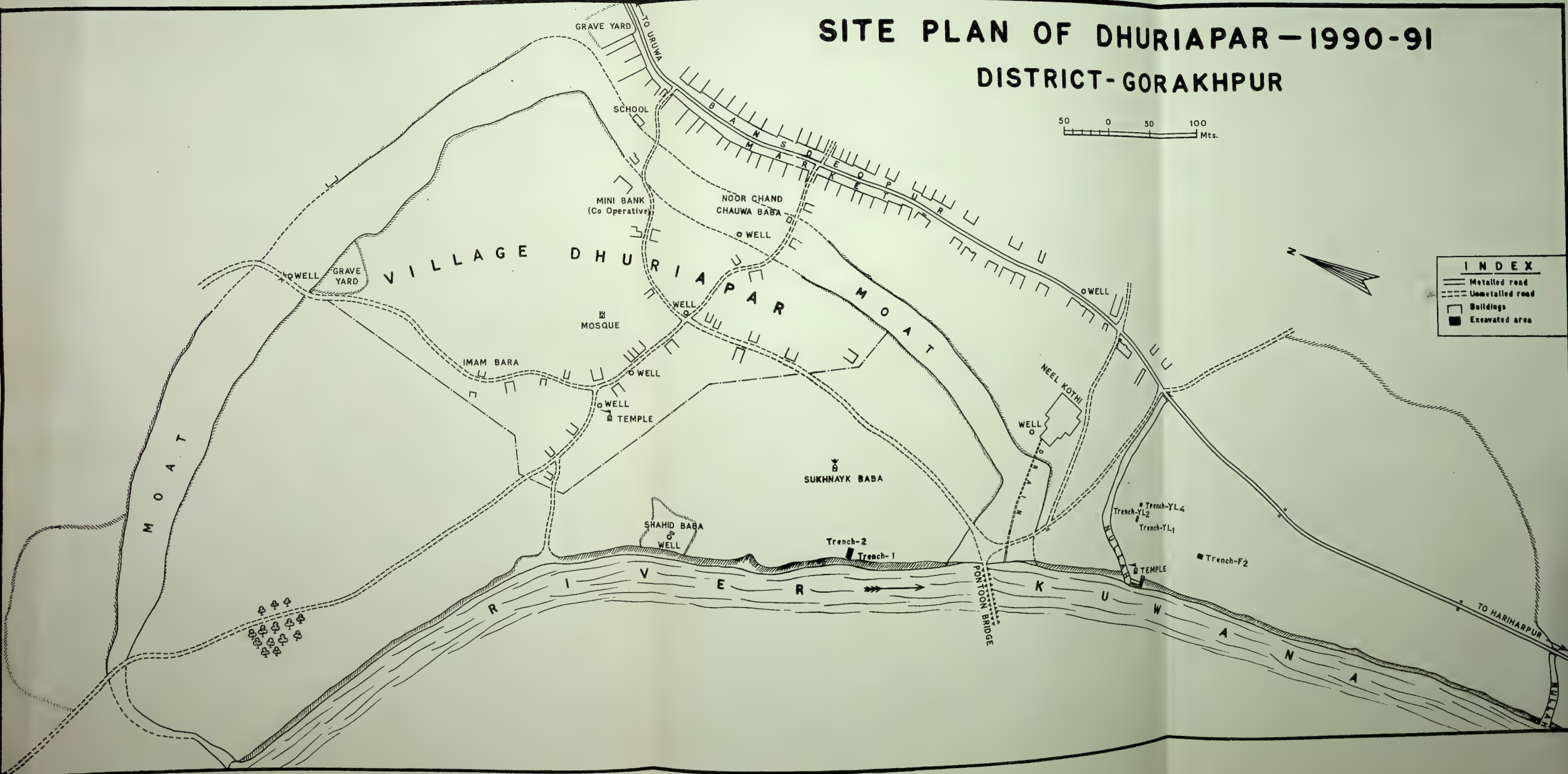


Fig. 2- Principal shapes in the white painted Black-and Red ware. No. 18 is a sherd of cord impressed pottery.



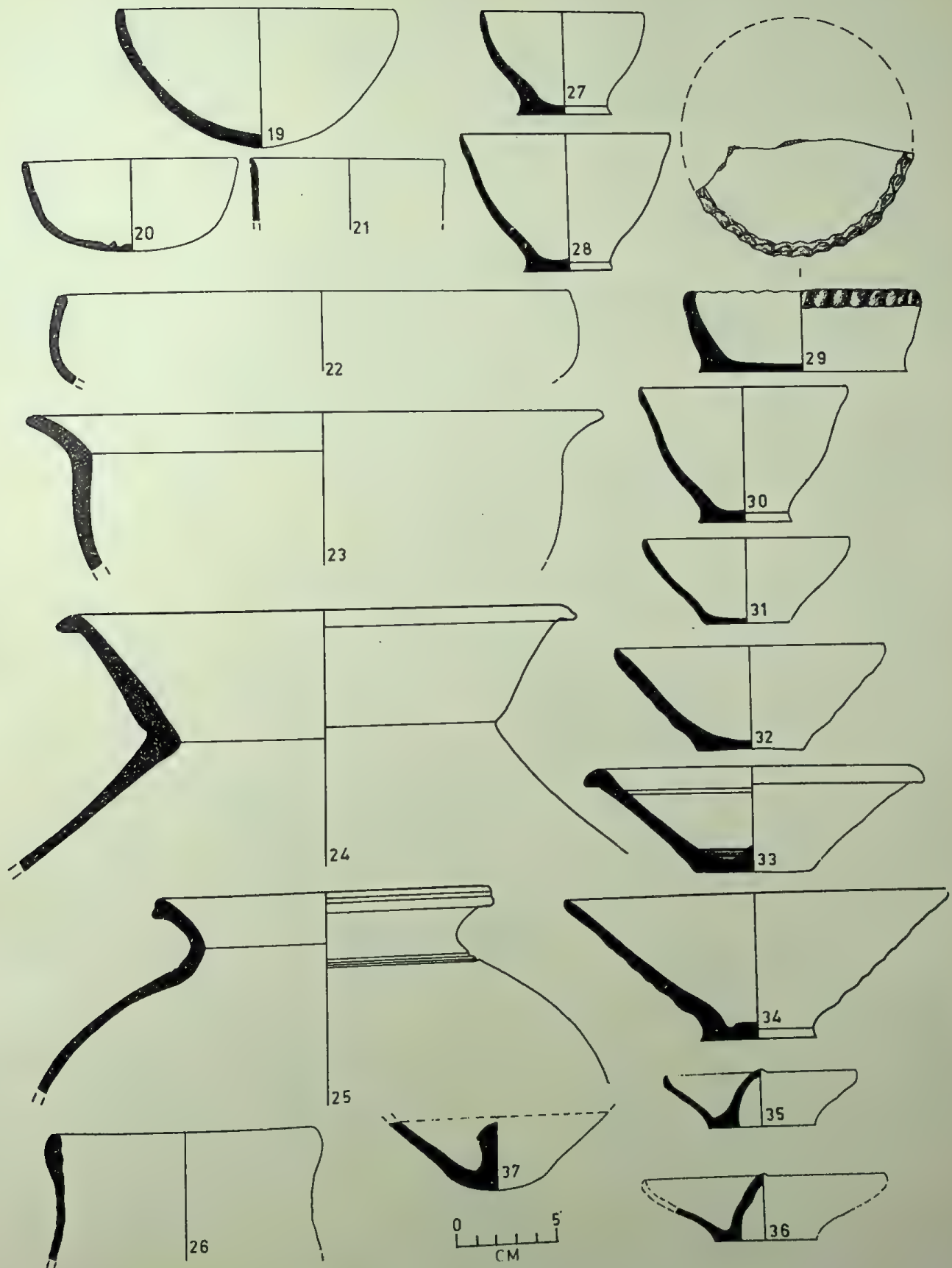


Fig. 3- Principal types of Red ware of Period II & III. No. 19 is a hand-made bowl of Grey ware of Period I.

antiquities comprise terracotta beads, balls, points and combs of bone and pottery discs. This culture deposit broadly conforms to the assemblage of Narhan culture. However, a few sherds of the cord-impressed pottery and a hand-made bowls (Fig. 3, No. 19) of Grey ware point to an earlier beginning of the site.

Period II (600 B.C. to 200 B.C.)

This period is characterised by the NBP ware and its associated ceramic industries. The NBP levels were found to be disturbed in almost all trenches.

Period III (200 B.C. to 500 A.D.)

This period was marked by Red ware comprising basins,

vases and other types of the Kushana and Gupta periods, bangles made of terracotta and glass, iron objects, stone beads and terracotta pestles.

Period IV (900 A.D. to 1500 A.D.)

This period was marked by Red ware with such characteristic types as spouted vases, cooking vases with flared featureless rim, multi-grooved concave neck carinated to a sagger base (Fig. 4; Nos. 38-42); knife-edged bowl (Fig. 3, No. 34) and lids with featureless rim and hollow conical knob rising above the rim level (Fig. 3 Nos. 35, 36). This period yielded walls made of burnt bricks having several structural phases and a width of 75 cm. These structures were traced upto a depth of 1.05 mt. in one of the trenches.

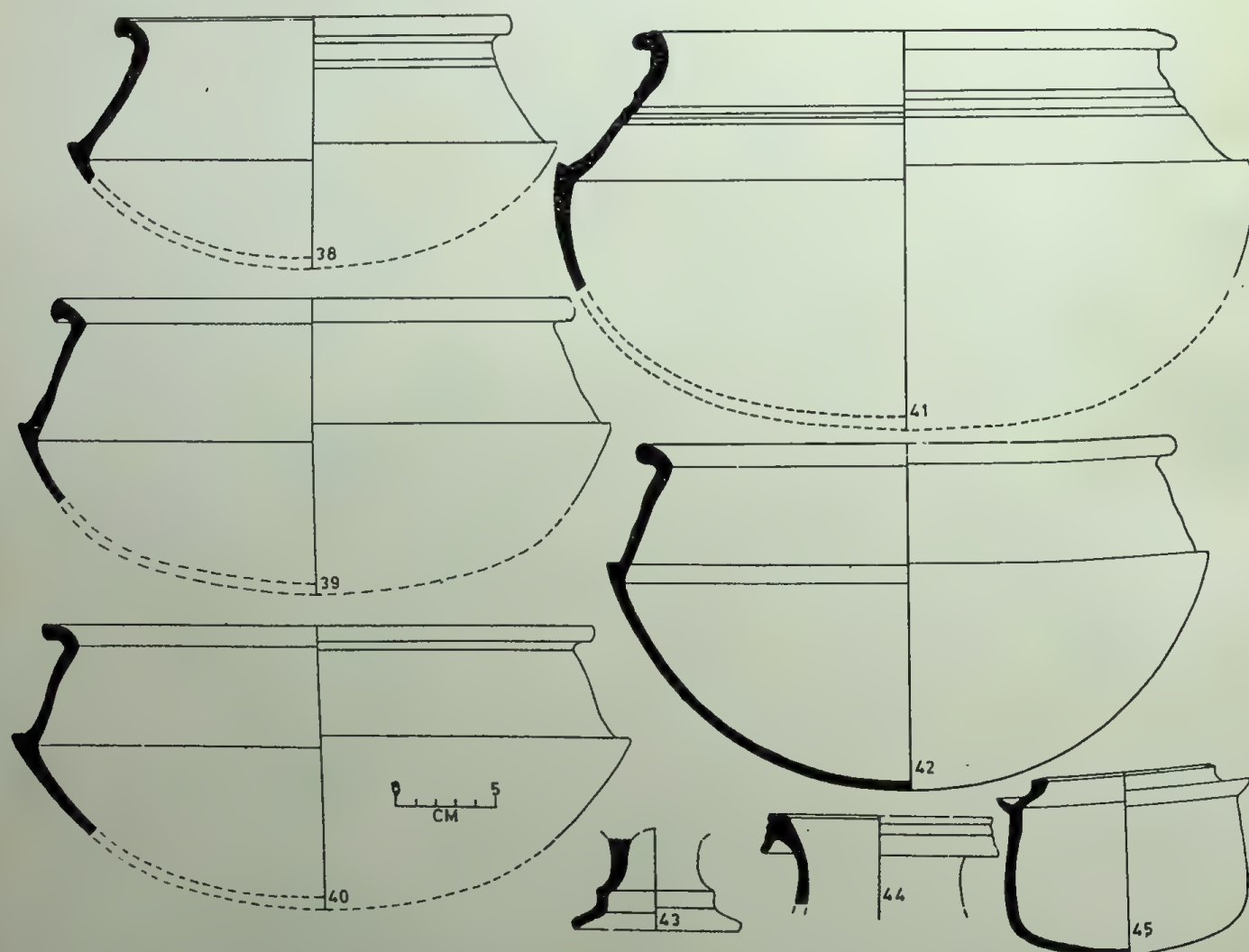


Fig. 4- Diagnostic types in Red ware of Period IV.

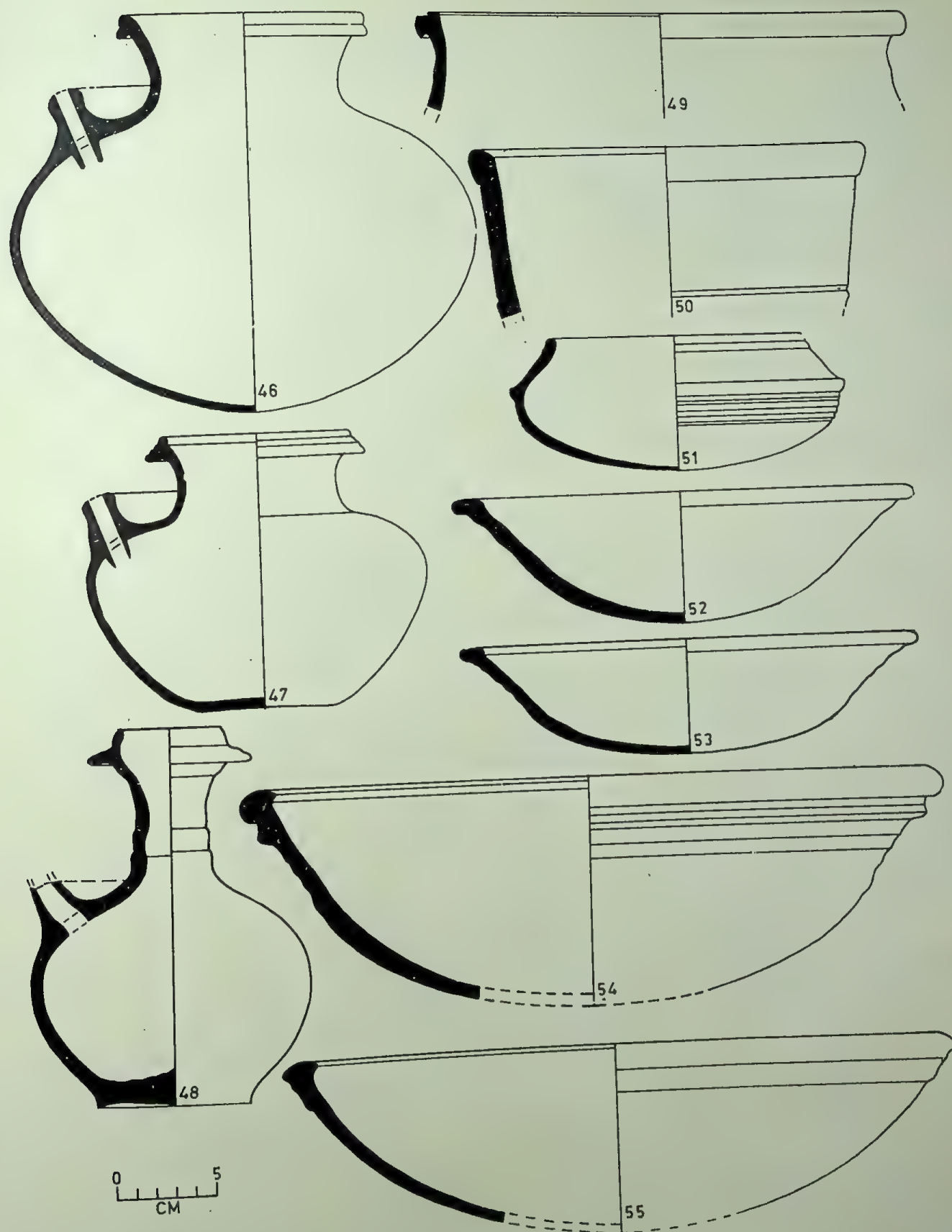


Fig. 5- Other shapes of Red ware of Period IV.

Period V

The settlement was occupied during the British period as well and several burnt brick structures, including dying vats of indigo are still visible to the west of the present-day Dhuriapur village. Besides, a small fortified area just on the banks of the Kuwana river and located almost in the central part of the mound may represent the remains of the fortified settlements of king Dhurchand.

Other Important Finds

In addition to the structural remains, ceramic industries

and small finds noted above, mention may be made of the discovery of the two coins coming from Trench No. 1 and ascriable to Period IV. After cleaning and chemical treatment of these coins, a preliminary examination reveals that no one of these is ascriable to Sultan Ala Udin Shah Mohammad of Sharqi dynasty of Jaunpur ruling over this part of the Middle Ganga plain during the early part of 15th century A.D. Besides, a copper seal coming from trench YL-4 and ascriable to Period III is an important discovery. It measures 2.95 cm x 2.53 cm. After cleaning and chemical treatment this seal was found to contain the legend provisionally read as *Ja ma vaggba* inscribed in the Brahmi script of the Kushana/early Gupta period.

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Oriyo Timbo and the Cultivation of Millets in India

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Oriyo Timbo (21° 54' N; 71° 32' E) is located near the villages of Chiroda and Godhali in the Gadhada (Swaminarain) Taluka, Bhavnagar district of Gujarat state. This site was first visited by archaeologists in 1971. During the winter of 1981-82 a joint University of Pennsylvania and Gujarat State Department of Archaeology team excavated this post-urban Harappan settlement datable to the first-half of the second millennium B.C. This one season of excavation revealed that it was occupied seasonally in the months of March to July by pastoralists who had undertaken a bit of cultivation. It may be noted that all the plant remains from this site were concentrated in strata 2 and 3 and by association with pottery and other artifacts, date to Rangpur III times.

The plant remains were recovered by flotation technique and a total of 103 samples comprising 542 litres of unscreened dirt were processed through water flotation and resulted in the recovery of 344 archaeological seeds. These seeds were examined by Gail E. Wagner¹ and her analysis shows that seventy-seven per cent of seeds from Oriyo are millets comprising of *Panicum*, *setaria* spp. (foxtail millet), *Eleusine coracana* (finger millet or ragi). Of these, *Eleusine coracana* accounting for 17% was cultivated while the other two, *Panicum* spp. and *Setaria* spp. accounting for 31% and 29%, respectively have not been identified to species². One carbonized and 99 uncarbonised *Setaria* or foxtail millet grains, were

recovered from Oriyo Timbo along with a number of grains impressions. The single carbonised grains was recovered from stratum 3, the undisturbed, compacted matrix was full of *Setaria* grain impressions, many with silica skeletons still attached. *Setaria* grain impressions also occurred in compacted matrix from stratum 2, but were not present in any other strata. It would seem, therefore, that the Chalcolithic context of the grain is secure. It may be noted that neither wheat nor barley were recovered from Oriyo, further strengthening the assumption that the site was not occupied during the cold, winter months. This new data clearly demonstrates that millets were the staple food at Oriyo Timbo. It may be observed that millets were also recovered from slightly earlier Harappan contexts at Rojdi demonstrating an important continuity in the use of these plants.

Archaeological History of Millets in India

Various types of millets have been reported from the pre-Harappan culture at Rohira, the Late Harappan culture at Hulas in western Uttar Pradesh in the same context at several sites in Gujarat (Rangpur, Surkotda, Rojdi) and in the Neolithic levels at Hallur (Karnataka) besides Pirak in Pakistan. These grains were grown in the Chalcolithic culture at Ahar (south-eastern Rajasthan) and at Paunhar in northern Maharashtra. The evidence from these sites is as follows:

Evidence for the cultivation of jowar millet (*Sorghum vulgare* L.) at Rohira has been obtained from Period IA (pre-Harappan) (C. 2300-2000 B.C.) along with that of barley, wheat, lentil and horse gram³.

The Late Harappan crops at Hulas (district Saharanpur) comprised barley and several varieties of wheat and pulses. A single subglobos seed with vaguely rugose ornamentation was provisionally identified as ragi (*Eleusine coracana*)⁴.

Among the Late Harappan sites of Gujarat — Surkotda, Rangpur and Rojdi — have furnished evidence of millet cultivation in recent years :

At Surkotda two lumps of charred masses have yielded as many as 574 carbonised seeds an overwhelming majority of which are of wild plant species. Of these, 40 seeds, earlier referred to ragi (*Eleusine coracana*) were found to belong to that of *Setaria* spp.⁵. Further research on this charred mass confirmed the occurrence of *Eleusine coracana* and *Setaria italica*⁶. The later grain is of considerable interest as it has been discovered for the first time in such an early context.

The plant remains from Rangpur were identified rice husk (*Oryza* sp.) and charred remains of bajra or pearl millet (*Pennisetum*).

Along with other cereals, Rojdi has yielded evidence of two large millet i.e. *Sorghum bicolor* and *Pennisetum typhoideum*⁷.

The type site of Banas culture in south-eastern Rajasthan is Ahar. Evidence for the cultivation of pearl millet (*Pennisetum typhoideum*) and jowar (*Sorghum vulgare* L.) have been obtained from Period I. However, there is some controversy regarding the stratigraphic position of these samples as these came from a disturbed area⁸.

A large number of Jorwe culture sites have been found from various parts of Maharashtra (Deccan) except the Konkan. Of these, Inamgaon and Daimabad have provided evidence regarding agricultural practices of these people.

Jowar (*Sorghum vulgare*) was introduced at Inamgaon after the end of the early Jorwe period⁹. Grains of kodo millet (*Paspalum scrobiculatum* Linn.) and finger millet (*Eleusine coracana* Linn.) have also been reported from this site¹⁰.

Evidence for the cultivation of ragi (*Eleusine coracana*)

comes at Daimabad from the Malwa and Jorwe culture levels. In the Jorwe levels grain of Ragi (*Eleusine coracana*), Kodo millet (*Paspalum scrobiculatum* Linn.) and foxtail millet (*Setaria italica* L.) were found¹¹.

Among the Neolithic cultures of south India two sites located in Karnataka have furnished evidence of cultivation of millet. These are Hallur and Tekklakota. The earliest report of a millet in India is the presence of *Eleusine coracana* at the Neolithic site of Hallur in Karnataka dating to approximately 2300 B.C.¹².

Cultivation of Millets in Present-day India

Millets are a group name of cereals known as coarse grains. They comprise plants belonging to different genera and species with widely varying habits and characters. Millets are warm-weather cereals with small grains and include six genera, i.e. *Panicum miliaceum* — Indian millet (*Cheena*, *Sawan*) and *Panicum miliare* — Little millet (*Kutki*), *Setaria italica* — Italian millet (*Kaun*) fox-tailed millet, *Echinochloa* — Barnyard millet, *Pennisetum typhoides* — Pearl millet *Paspalum scrobiculatum* L. — Kodo millet, *Eleusine coracana* — Ragi (African millet), *Sorghum vulgare* — Great millet (Jowar).

The millets are the hardiest amongst the cereals. Most of the millets are grown during *Kharif* under rain-fed conditions. They do respond, however, to irrigations profitably. The areas under different millets, as recorded in 1970-71 in India were 12.9 million hectares under pearl millet, 2.5 million hectares under finger millet and 4.8 million hectares under other minor millets, with a total area of 20.2 million hectares and a total production of 12.1 tonnes of grain. The corresponding world acreage and production of millets (excluding sorghum and pearl millet) are 35.4 million hectares and 10.3 million tonnes¹³. Millets form a staple food in India, and in several developing countries of Africa, near East and South Asia. As stated earlier, Oriyo Timbo millets include *Panicum*, *Setaria* and *Eleusine coracana*. Wheat and barley were not found in Oriyo Timbo¹⁴.

In present-day India, the grains not only the millet, but also those of *Panicum miliare* (Samai or Kutki) are eaten¹⁵. It may be noted that although all *Panicum* are small-seeded, the use of their grains for food has been widespread around the world. *Panicum sumatrense* is a crop in southern Asia and *Panicum sonorum* appears to

have been domesticated in the Sonoram desert region of the south-western U.S.A. and north-western Mexico¹⁶. *Panicum* is also used as fodder for cattle.

Diffusion of Millet Cultivation

Ragi or Finger millet (*Eleusine coracana*) is originally an African millet and that it was transported to India in the pre-Aryan times¹⁷. In a recent study Jack Harlan¹⁸ thinks that the area of probable domestication of *Eleusine coracana* was in the highlands from Ethiopia to Uganda, for *Sorghum bicolor* in a wide zone in the broad leaved savannah belt that stretches from lake Chad to eastern central Sudan. He thinks that pearl millet (*Pennisetum americanum*) was domesticated in the dry Savannah from Sudan to Senegal¹⁹. It will be more interesting to enquire whether this millet reached Indian peninsula by land or by some other route, perhaps sea, particularly in the light of the evidence of the headrests which suggest probably contacts with Egypt²⁰. Their integration into the Indian subsistence seems to have taken towards the closing centuries of the third millennium B.C. Once in India, its cultivation caught up in the southern millet region comprising the Jhansi division in southern Uttar Pradesh, central Madhya Pradesh, western Andhra Pradesh, western Tamil Nadu, eastern Maharashtra and parts of Karnataka. The rainfall in this region is 50 to 100 millimetres and the soil is partly black cotton and partly lateritic. This country exported this cereal to other countries in the early historical times. We are told that the Romans sought an Indian millet grown in Pliny's days (first century A.D.) which had a huge yield capacity, one grain produced approximately 1.65 kg.²¹. Today the millets form an essential item in the dietary system of the poorer sections of the society and are a valuable source of fodder to the cattle.

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The fruit and seed remains from ancient Hulaskhera, District Lucknow, U.P. (c. 700 B.C.—500 A.D.)

Chanchala

Abstract

The paper embodies the discussion on the remains of the cereal, pulse and oil crops alongwith the wild taxa, from the cultural deposits at Hulaskhera, Lucknow district, dated from 700 B.C. to 500 A.D. The investigation reflects mainly on the aspect of agriculture and on the surrounding ecological conditions in general, at the time of settlement about 2700 years ago.

Introduction

A massive mound of Hulaskhera excavated by State Archaeology department of Uttar Pradesh, has appeared as a key site of Kushana's period in Lucknow district. The mound of Hulaskhera site (26°41' North and 81°1' East) about 5 Kms. of Mohanlalganj tahsil of Lucknow, is situated about 28 Kms east of district headquarters on Lucknow-Rae Bareilly road. Since no archaeobotanical information is available in this region, the seeds and fruits of crop plants and wild taxa; and wood charcoals from this site would throw a fresh light on the plant economy of Black-slipped ware culture to the Kushana and Gupta periods during ca. 700 B.C.—500 A.D. The investigations have brought to light a rich and varied plant economy. Cereals viz. rice (*Oryza sativa*), barley (*Hordeum vulgare*), dwarf-wheat (*Triticum sphaerococcum*), ragimillet (*Eleusine coracana*) and pearl-millet (*Pennisetum typhoides*), green-gram (*Vigna radiata*), khesari (*Lathyrus sativus*), field-pea (*Pisum*

arvense), and sesame (*Sesamum indicum*) have been found associated with a large number of fruits and seeds of wild grasses, sedges, legumes and other dicotyledonous plants.

Material and methods

Exhaustive collection of ancient remains of cereals, pulses, seeds-fruits and wood charcoals was made by floatation technique in 1987, from different cultural deposits. The material remains in the uncarbonised and carbonised state of preservation and impressions on mud plasters, comprised of 46 samples. The seed-fruit remains and the impressions on potsherds are discussed in the present paper (Table—1).

Seeds and fruits were cleaned with the 5% glacial acetic acid and repeatedly washed in water. Soil particles adhered to their surface were cleaned in acid-alcohol (Glacial acetic acid 10% + Ethyl Alcohol 50% in equal volumes) with the help of a soft camel-hair brush. Finally, the grains were left to be dried up in the normal conditions. The identification was carried out on the comparative data based study of the morphological characters, with their living counter parts.

Results

The assemblage of seeds and fruits has been described

under four categories as given below :

A. Cereals

1. *Oryza Sativa* L. (Rice) (Pl. 1, Figs. 1, 2 & 2a)

In all sixty narrowly oblong, laterally flattened and prominently ribbed grains, have been found to measure 4.00 to 5.00 mm. in length, 1.75 to 2.60 mm. in breadth and 1.00 to 1.75 mm. in thickness. The hilum scar in most of the grains is well preserved. The length, breadth and thickness (L/B X T ratio) falls above 2, which according to Vishnu-Mittre¹ leads us to tentatively refer the grains to some cultivated form of *O. sativa*, the only cultivated species in South Asia.

Further confirmation of identification has been sought in the impressions of grains and husk in burnt mud-plasters (Pl. 1, figs. 2 & 2a). Quite a few impressions revealed the details of fertile-glumes i.e. lemma and palea. The lemma is boat-shaped with convex outer surface and the palea is partially enclosed by lemma. The surface of lemma and palea, shows the tissue arrangement in a characteristic "Chess-board" pattern. The exhaustive investigations on the epidermal studies of lemma and palea in the wild and cultivated species of *Oryza*, have been carried out at Birbal Sahni Institute of Palaeobotany by Savithri² and Sharma³. Granules are arranged in rows, alternating with slits. Granules in the middle and lower parts of lemma and palea exhibit anastomosing pattern. This characteristic feature of Hulaskhera samples is comparable to the ornamentation pattern in many forms of *Oryza sativa*, confirming the specific identification of Hulaskhera rice.

2. *Hordeum vulgare* L. emend. Bowden, (Barley) (Pl. 1, figs. 4, 5 & 5a).

A large number of elongated caryopses measure 5.00-6.50 mm. in length, 2.00-3.50 mm. in breadth and 1.50-2.50 mm. in thickness. The ventral furrow originates from the base and gradually widens towards the upper end of the grains. The dorsal side is almost flat and the embryo rests on the beak like projection. Kernels are, partially or completely enclosed within a thick husk or hull and appear angular in cross view, because of longitudinal striations of the husk. The assemblage of grains shows the mixture of two types; some are larger with prominent bulging in the middle, while others exhibit ventrolateral twists. In view of these characters, the grains from

Hulaskhera belong to hulled and six-row form of *Hordeum vulgare* L. emend Bowden.

3. *Triticum sphaerococcum* Perc. (Dwarf wheat) (Pl. 1, fig. 3)

Only four short, broad and more or less Oval-round grains with evenly rounded dorsal side and rounded cheeks along the ventral furrow, measure 3.50-4.50 mm. in length, 3.00-3.50 mm. in breadth and 2.00 mm. in thickness. The grains with this peculiar appearance, compare in all respect with those of dwarf wheat (*T. sphaerococcum*).

4. *Eleusine coracana* (L.) Gaertn. (Ragi, African millet) (Pl. 2, Fig. 7)

Carbonised grains are globose to sub-globose in shape with a dorsal flattened embryonal position in inverted 'V' shaped outline. They measure 1.5-2.00 mm. in length, 1.25 to 1.50 mm. in breadth and 1.00 mm. in thickness. The surface ornamentation shows minute tubercles and concentric ridges. In appearance they belong to *Eleusine* sp. In contrast to the elliptic grains showing obliquely striate ornamentation of *Eleusine indica*, which is a common wild grass, the grains of Hulaskhera *Eleusine* are globose and having finely striate punctate ornamentation. In this character, they have been identified as belonging to the cultivated ragi-millet (*E. coracana* (L.) Gaertn.).

5. *Pennisetum typhoides* (Brum.) Stapf & Hubb (Pearl millet or Bajra) (Pl. 2, Fig. 5)

The elongated caryopses with one end narrow and somewhat tapering due to the projection of embryo and the other broad and rounded, measure 3.20-4.00 mm. in length, 1.60-2.40 mm. in breadth and 1.20-1.80 mm. in thickness. As result of carbonisation, the pericarp has partly been rubbed off. These caryopses compare with those of *Pennisetum typhoides* (Burm.) Stapf. & Hubb. and have, therefore, been identified as such.

B. OIL SEED

6. *Sesamum indicum* L (Sesame, Til) (Pl. 2, Fig. 6)

There are several flat and ovate seeds with smooth

surface, measuring 2.00–2.75 mm. in length, 1.00–1.50 mm. in breadth and 0.30–1.25 mm. in thickness. Under a stereobinocular microscope, faint lines are seen running along the margins.

Being small-sized, flat and ovate in shape the seed is regarded to be of sesame in family Pedaliaceae⁴ and the faint marginal lines and the equally faint central lines on both the sides are diagnostic features of *Sesamum indicum* (Martin and Barkley, 1961). A wild species of *S. mulayanum* also occurs in north-western parts of India, but it can be distinguished from the cultivated *S. indicum* in having reticulate-rugose seed surface. The sesame seed from Hulaskhera with smooth surface has, therefore, been identified as *S. indicum* L.

C. PULSES

7. *Vigna radiata* (L.) Wilczek. (Green-gram) (Pl. 2, Fig. 2)

A number of complete pulses seeds and cotyledons have been recovered. The complete seeds are elongated and somewhat cylindrical in shape, measuring 3.25 to 3.50 mm. in length, 2.00 to 3.00 mm. in breadth and 2.00 to 3.00 mm. in thickness. Cotyledons are 3 to 4 mm. in length, 2.00 to 3.00 mm. in breadth and 1.00 to 1.25 mm. in thickness. Both the seeds and cotyledon have squarish to rounded ends. Elliptical and flat hilum is situated at the level of seed-coat surface.

In general morphology, the seeds and cotyledons compare with those of green-gram (*Vigna radiata*), and black-gram (*Vigna mungo*). In black-gram, the hilum is raised above the level of seed-coat surface, partially covered with a hard tissue. The carbonised seeds having hilum at the level of seed surface show close similarity with those of green-gram, and have, therefore, been identified as such.

8. *Pisum arvense* (L.) Poir (Field-Pea) (Pl. 2, Fig. 4)

Single seed is spherical in shape and measures about 3.25 mm. in diameter. The hilum is ovate and flush with the smooth surface of seed. Chalaza is faintly indicated at a distance from hilum. On the above morphological ground, the unknown seed has been referred to field-pea (*Pisum arvense*) cultivated as a pulse crop.

9. *Lathyrus sativus* (L.) (Grass-pea) (Pl. 2, Figs. 1 & 1a)

The seeds with rough surface vary from somewhat triangular to wedge-shape and measure 3.50 to 4.50 mm. in length, 3.00 mm. in breadth and 1.50 to 3.00 mm. in thickness. The small and oval hilum is placed at one corner of the broader end. The Hulaskhera seeds compare with those of grass-pea (*Lathyrus sativus* L.).

D. WEED AND WILD TAXA

10. *Lathyrus aphaca* Linn. (Yellow Vetchling) (Pl. 2, Fig. 3)

The wedge-shaped and compressed seeds, measuring about 2.25 to 2.50 mm. in length, 2.00 mm. in breadth and 1.00 mm. in thickness, compare with those of *Lathyrus aphaca* which is a common leguminous weed growing in the winter crop fields.

11. *Vicia sativa* Linn. (Common Vetch) (Pl. 3, Fig. 5)

The seeds are somewhat cubicular to globular in shape and measure 2.75 to 2.50 mm. in diameter. They compare with those of *Vicia sativa* a leguminous weed of common occurrence in wheat and barley fields.

12. *Salmaia malabarica* Schoot. et Endl. (Silk-Cotton tree) (Pl. 3, Fig. 3)

The seeds having obovoid shape and smooth surface, measuring 4.25 mm. in length, 3.50 mm. in breadth and 3.25 mm. in thickness, are comparable to those of *Salmaia malabarica*, a tree of family Bombacaceae.

13. *Ziziphus* Juss. (Jujube) (Pl. 3, Fig. 6)

Quite a few small pieces of carbonised jujube fruits have been encountered. They appear to be spherical in shape, with tuberculated outer surface. In general appearance, the remains of fruits belonging to some species of *Ziziphus*.

14. *Terminalia belerica* Roxb. (Beleric myrabolan) (Pl. 3, Figs. 1, 1a & 2).

One seeded globose to pyriform fruit with characteristic faint ridges, measures about 6 mm. in breadth. A few broken pieces of pericarp have also been found. The fruit

is referred to *Terminalia belerica* (family Combretaceae), which on being dried develop the ridges and faint furrows of such type. The fruit of beleric myrabolan is highly esteemed for its medicinal value.

15. *Commelina benghalensis*

(L.) (Day flower faint)

(Pl. 3, Fig. 4)

Seeds flattish and vary from elliptic-truncate to ovoid or nearly globular in shape, measure 1.00-2.50 mm. in length, 1.00-1.50 mm. in breadth and 0.50-1.00 mm. in thickness. Elongated and narrow hilum lies on the flat side. The seed is identifiable as of *Commelina benghalensis*, abundantly found during the rainy season on high ground and also in damp places.

16. *Datura* sp. L. (Jimsonweed)

(Pl. 3, Fig. 7)

Seeds small, measuring nearly 1.00 mm. in length and breadth and 0.75 mm. in thickness, with reticulated surface. Reticulum is thick, having shallow interspaces and large dimple like depressions and minute stipples. Hilum is triangular. The seed may be referred to *Datura* sp. It is a narcotic plant growing in waste land.

17. *Polygonum barbatum* L.

(Pl. 4, Fig. 8)

Trigonus nuts of small size, measure about 0.50-1.00 in length and 0.30-0.75 mm. in thickness. The are comparable to those of *Polygonum* species. The size-range of the ancient material brings it close to *Polygonum barbatum*, a weed of moist places.

18. *Chenopodium album*

L. (White Goosefoot, Bathua)

(Pl. 4, Fig. 9)

Shiny, circular to lenticular seeds with rounded margins, measure 0.75 to 1.25 mm. in length, 0.50 to 1.00 mm. in breadth & 0.25 to 0.50 mm. in thickness. A characteristic notch is present on their margins. The seeds are comparable to those of *Chenopodium album*, a common weed in winter crops. Tender shoots and leaves of this plant are used as vegetable throughout the region.

19. *Desmodium gangeticum*

DC. (Tickclover, Sarivan)

(Pl. 4, Fig. 10)

Elliptic to ovate seeds, somewhat laterally compressed and showing sharply sloped margins, measure 1.25-2.50 mm. in length, 0.75-1.25 mm. in breadth and 0.50-0.75 mm. in thickness. Hilum small and somewhat circular in shape, located nearly central on the straight margin. One end of seed usually broader than the other. The seeds may be referred to those of *Desmodium gangeticum*, a common plant of moist, muddy soil near watery places.

20. *Trianthema portulacastrum*

L. (Lalsabuni)

(Pl. 4, Fig. 11 & 13)

The carbonised seeds are compressed and orbicular in shape, characteristically beaked near hilum and exhibit transversely tuberculated surface. They measure 1.25 to 1.50 mm. in length, 1.00 to 1.50 mm. in breadth and 0.50 mm. in thickness. On morphological grounds, these compare with the seeds of *Trianthema portulacastrum*, a plant found on sand, the mud fencings and water drains of fields under cultivation, during the rainy season.

21. *Trigonella occulta* Delile ex DC.

(Pl. 4, Fig. 14)

Reniform seeds having a prominent beak, notched hilum and shiny smooth surface, measure 1.00-1.20 mm. in length and 0.60-0.80 mm. in breadth. They show similarity with the seeds of *Trigonella occulta*, a gregarious slender annul plant of marshy places.

22. *Solanum* sp. (Night-shade)

(Pl. 4, Fig. 17)

Flat, and oval to reniform, with an obscure notch and marginal scar; surface cellular-reticulate or smooth. The size is 1.25 mm. in length, 1.00 mm. in breadth and 0.50 mm. in thickness. Seeds are comparable to those of *Solanum* sp., represented by three species viz., *S. nigrum*, *S. surattense* and *S. indicum* in the region. Seeds may belong to either of these species of annuals and perennial undershrubs.

23. *Sida* sp. (Country-mallow)

(Pl. 4, Fig. 21)

The rounded to somewhat triangular seeds with two flat faces, have rounded back, like a sector of sphere. Inner edge of the seeds is much narrow as compared to the outer edge. Hilum lies in a conspicuous notch. Seeds

measure 1.00 to 1.75 mm. in length, 0.75 to 1.00 mm. in breadth and 0.50 to 1.25 mm. in thickness. On morphological grounds, the unknown seeds are comparable to those of *sida* sp. Keeping in view the overlapping characters of seeds in five species found in the region, the specific identification is difficult.

24. Indigofera L. (Indigo)
(Pl. 5, Figs. 22 & 22a)

Several ovoid to spheroid seeds measuring 1.00 to 2.00 mm. in diameter, have been recovered in carbonised state showing more or less circular hilum centrally located on one margin. Seeds are comparable to those of *Indigofera* sp. Six species manifest in this region in waste ground and as weeds also in wheat and barley fields. The size-range, however, can be of some significance to refer the seeds to either *L. enneaphylla* Linn. or *L. linifolia* Retz.

25. Scleria sp. (Scleria sedge)
(Pl. 5, Fig. 26)

The globular nuts with hard bonelike wall and the surface pitted-reticulate and wrinkled, measure 1.50 to 1.75 mm. in length, 1.00 to 1.50 mm. in breadth and 1.00 mm. in thickness. They have been referred to *Scleria*, a member of sedge family commonly occurring in this area.

26. Oryza rufipogon Griff. (Wild Rice)
(Pl. 6, Fig. 27)

The grains slender, broader to somewhat short-round and enclosed in a husk, measure 3.00 to 4.00 mm. in length, 1.00-1.25 mm. in breadth and 0.50-0.75 mm. in thickness. The granules on the husk are rounded, aligned in horizontal wavy rows which vary in number from a few in narrower grains to many in broader grains. The rows of rounded granules run parallel and without making any anastomosing alignment. On the morphological grounds, the grains show close similarity with those of perennial wild rice (*Oryza rufipogon*), a grass commonly occurring in the northern Gangetic plains.

27. Panicum L. (Panicum grass)
(Pl. 6, Figs. 28 & 28a)

Broadly elliptical grains measuring 1.25 to 2.75 mm. in length, 0.75 to 1.25 mm. in breadth and about 0.50 to 1.00 mm. in thickness, resemble with those of *Panicum* in

general morphology. Specific identifications could not be determined.

28. Andropogon L. (Blue stem grass)
(Pl. 6, Fig. 29)

Elongated grains with one end rounded and the other tapering measure 1.00 to 2.00 mm. in length, 0.50 to 0.90 mm. in breadth and 0.25 to 0.60 mm. in thickness. Conspicuous hilum scar can be seen on the beak like projection of more or less evenly rounded dorsal side. The grains resemble closely with those of *Andropogon*, a robust annual as well as perennial grass represented by a large number of species. The specific identification could not become possible.

29. Echinochloa crusgalli
(L.) P. Beauv. (Barnyard grass, sawan)
(Pl. 6, Fig. 30)

The ovoid-orbicular grains having smooth surface and well-marked hilum scar, measure about 1.00 to 1.50 mm. in length, 1.00 to 1.25 mm. in breadth and 0.50 to 1.00 mm. in thickness. They compare with those of *Echinochloa crusgalli*, a grass commonly growing in the water-logged situations and as a weed also in the paddy-fields. Another species (*E. colonum*) (L.) Link, which is cultivated as a minor crop, has comparatively larger seeds.

30. Poa (Blue or meadow grass)
(Pl. 6, Fig. 31)

The grains are somewhat elliptical in shape with rotund ends and measure 2.00 to 2.75 mm. in length, 0.75 to 1.00 mm. in breadth and 0.50 to 0.75 mm. in thickness. They are comparable with those of *Poa* species. There is a lot of confusion regarding the taxonomic status of some of the species in this genus. The specific identity could not be established.

31. Dactyloctenium aegyptium
(L.) P. Beauv. (Crowfoot grass)
(Pl. 6, Fig. 32)

The ovoid caryopses with rugose surface and measuring about 1.00 mm. in length and 1.00 mm. in breadth, have been encountered. The hilum is located on the extreme apex of the grains. The caryopses on morphological grounds, compare closely with those of locally occurring

Dactyloctenium aegyptium, a prostrately running and deeply rooted grass in sandy places, and as weed also in the crops of rainy season.

32. *Fimbristylis* Vahl. (*Fimbristylis* sedge)
(Pl. 6, Figs. 33a & 33b)

Numerous lens-shaped to ovate and somewhat triangular small-sized nuts measure 0.75 to 1.50 mm. in length 0.50 to 1.25 mm. in breadth and 0.25 to 0.75 mm. in thickness. Surface is granulated and reticulate. They show their close resemblance with those of some species of *Fimbristylis* of the sedge family a common component of the flora around the site. A large number of species are frequently found in the moist and swampy localities near the ponds and also in the weed flora of paddy fields.

33. *Cyperus* L. (Flatsedge)
(Pl. 6, Fig. 34)

Elongated nuts, triangular in cross-view, measure 1.25 to 1.50 mm. in length, 0.75 to 1.00 mm. in breadth and approximately 1.00 mm. in thickness. Surface is characterized by minute and somewhat papillate cellular markings. On comparative grounds, the ancient nuts compare with those of *Cyperus*. This genus is represented in the region by 13 species, commonly growing in grasslands and also as a weed in the paddy-fields. The specific identification could not be established.

34. *Elaeocharis* R. Br. (Spikerush sedge)
(Pl. 4, Fig. 20; Pl. 6, Figs. 35 & 35a)

The ovoid to elliptical and somewhat trigonous nuts having a cap (tubercle) on the top, measure 1.00 to 1.75 mm. in length, 0.50 to 1.00 mm. in breadth and thickness. Surface ornamentation could not be seen due to excessive carbonisation. Presence of the cap (tubercle) is a characteristic feature of genus *Elaeocharis*. *E. atropurpurea* Kunth and *E. plantaginea* R. Br. occur in the marshy places and ponds and also as a weed in paddy-fields in the region. The ancient seeds belong to either of these species.

35. *Scirpus* sp. (Bulrush sedge)
(Pl. 6, Fig. 36)

The nuts with somewhat triangular shape and wrinkled surface, ranging from 1.00 to 1.25 mm. in length, 0.50 to 0.75 mm. in breadth and approx. 0.50 mm. in thickness,

closely compare with those of *Scirpus* species. There are 7 species of *Scirpus* growing in marshy habitats, in this region. Specific identifications could not be established.

36. *Kochia indica* Wight (Summer-Cyperus)
(Pl. 6, Fig. 37)

Seeds flat, narrowly obovate and with a low wall-like ridge bordering the margin on both faces, except at the narrower basal end. They measure approximately 1.50 to 1.75 mm. in length, 0.50 mm. in breadth and 0.25 mm. in thickness. The seeds compare with those of *Kochia indica*, the only species occurring as a common weed in this region.

37. *Convolvulus arvensis* Linn. (Field bindweed, Deer's for)
(Pl. 6, Fig. 38)

The seeds are rounded-triangular, rough surfaced with lateral sides plane, back side strongly arched towards the top and sloping downward to a pointed base, measuring 1.25 to 2.00 mm. in length, 1.00 to 1.25 mm. in breadth and 1.00 to 1.25 mm. in thickness. They are comparable to *Convolvulus* and *Ipomoea* of family convolvulaceae sharing common features. They are comparable to those of *Convolvulus* sp. having the oval attachment scar in vertical position, whereas in *Ipomoea* attachment scar is horse-shoe shaped and in horizontal position. The ancient seeds show close similarities with those of *Convolvulus arvensis* and, therefore, have been referred to the same.

38. *Chenopodium/Amaranthus* sp.
(Pl. 4, Fig. 15)

The small-sized seeds, lenticular-reniform in shape, with a distinct marginal notch have been broadly categorised as belonging to either *Chenopodium* or *Amaranthus* species. Their identification up to the generic level could not be established due to carbonised state of preservation.

E. UNIDENTIFIED FORMS:

(Pl. 4, Figs. 12, 16, 18, 19; Pl. 5, Figs. 23, 24, 25)

A large number of seeds in the assemblage could not be identified. They have simply been shown in the plates 4 and 5.

CONCLUSIONS AND THE ARCHAEOLOGICAL SIGNIFICANCE

The empirical study of plant remains produced by archaeological excavations at Hulaskhera confirms that cereals, legumes and oil-seeds were grown in this region to make agriculture based subsistence economy of the settlers, during 700 B.C.—500 A.D. Basically, Hulaskhera lies in rice-growing zone. We have ample evidence of cultivated rice as staple food grain of ancient proto-Historical and early—Historical communities in northern India. Barley, wheat, field-pea and sesame were the main crops of Harappans and the leading wave of the Harappan agriculture continued to flow in the Ganga-Yamuna Doab from about 2,000 B.C., and had substantial impact on the economy of succeeding second urbanisation in the history of Ganga valley, during the second half of first millenium B.C. These crop plants have been recorded from Narhan in Gorakhpur⁹; Srīngaverapura¹⁰ and Kausambi in Allahabad, in the same cultural region. *Eleusine coracana* (ragi millet) and *Pennisetum tyohoides* (pearl millet) are the millets grown as summer crops. The other comparable finds of these crops are from Narhan in Gorakhpur District¹¹. Their presence at Hulaskhera is, therefore, clearly understood. Fruit of *Terminalia belerica* (beleric myrabolan) is an important ingredient in the Ayurvedic medicines which,

along with the discoveries of *Terminalia chebula* and *Emblica officinalis* from the Iron-Age cultures at Khairadih in district Ballia¹² affirms the concept of *Triphala*, as described by Charak and Sushrat in their medicinal treatises (1st-2nd cent. A.D.)

A number of weeds and other wild taxa represented in the collection, must have come through the direct or indirect human activities. Quite a few such as *Lathyrus aphaca*, *Vicia sativa*, *Chenopodium album* and *Indigofera* sp. are the weeds in the winter crops of wheat and barley. On the other hand *Commelina benghalensis*, *Trianthema portulacastrum*, *Echino-chloa crusgalli*, *Dactyloctenium aegyptium* and the sedges viz. the species of *Cyperus*, *Elaeocharis* and *Fimbristylis* represent the weedy flora in the summer crop of rice. These must have come through the agricultural produce and give enough indication about the ecological state of crop-fields. The data needs detailed analysis. Not surprisingly a number of wild species, such as *Chenopodium album* which is eaten as a vegetable, must have played an important role in the economy.

The assemblage of seeds and fruits represent only a small fraction of the botanical wealth at ancient Huskhera, and add an additional data to the ancient plant economy of Ganga Valley, during 700 B.C.—500 A.D.

TABLE—I
LIST OF SEED AND FRUIT REMAINS EXAMINED

S. No.	Archaeological No.	Crop remains	Weeds Wild & taxa
A—BLACK SLIPPED WARE (Ca. 700 B.C.— 500 B.C.)			
1.	Tr. ZR-9 Qdt. 3 Depth 2.40m. Layer 8	<i>Oryza Sativa</i> & impression of husk on potsherd <i>Vigna radiata</i>	
2.	Tr. ZR-9 Qdt. 3 Layer 17	<i>Oryza sativa</i>	
3.	Tr. Zr-9 Qdt. 4 Depth 4.05 m Layer 17	<i>Hordeum vulgare</i>	

1	2	3	4
4.	Tr. A-1 Layer 15	<i>Hordeum vulgare</i> <i>Eleusine coracana</i>	<i>Chenopodium album</i> <i>Fimbristylis</i> sp. <i>Indigofera</i> sp.
5.	Tr. A.1 Layer 14	<i>Hordeum vulgare</i>	
B- NORTHERN BLACK POLISHED WARE (Period—IB, c. 5th cent. to 2nd cent. B.C.)			
6.	Tr. A.1 Layer 12	<i>Hordeum vulgare</i>	<i>Cyperus</i> sp. <i>Echinochloa crusgalli</i>
C- SUNGA PERIOD (c. 200 B.C. to 0 B.C.)			
7.	Tr. ZB-1 Qdt. 2 Layer 8(pot)	<i>Eleusine coracana</i> <i>Hordeum vulgare</i> <i>Oryza sativa</i> <i>Triticum sphaerococcum</i> <i>Vigna radiata</i> <i>Lathyrus sativus</i>	<i>Andropogon</i> sp. <i>Chenopodium album</i> <i>Cyperus</i> sp. <i>Dactyloctenium aegyptium</i> <i>Desmodium gangeticum</i> <i>Echinochloa crusgalli</i> <i>Elaeocharis</i> sp. <i>Fimbristylis</i> sp. <i>Indigofera</i> sp. <i>Panicum</i> sp. <i>Polygonum barbatum</i> <i>Sida</i> sp. <i>Irigonella occulta</i> <i>Vicia sativa</i>
8.	Tr. ZC-1 Qdt. 4, Layer 8.	<i>Hordeum vulgare</i> <i>Oryza sativa</i> <i>Vigna radiata</i>	<i>Andropogon</i> sp. <i>Chenopodium album</i> <i>Desmodium gangeticum</i> <i>Fimbristylis</i> sp. <i>Indigofera</i> sp. <i>Panicum</i> sp. <i>Poa</i> sp. <i>Sida</i> sp. <i>Echinochloa crusgalli</i>
D- KUSHAN PERIOD (Period—II, c. 1st cent. A.D. to 3rd cent. A.D.)			
9.	Tr. C -1 Qdt. 2	<i>Eleusine coracana</i> <i>Lathyrus sativus</i>	<i>Andropogon</i> sp. <i>Chenopodium album</i>

1	2	3	4
	Layer 6	<i>Hordeum vulgare</i> <i>Oryza sativa</i> <i>Triticum sphacro-coccum</i> <i>Vigna radiata</i>	<i>Cheno/ Ams</i> <i>Convolvulus arvensis</i> <i>Datura</i> sp. <i>Elaeocharis</i> sp. <i>Fimbristylis</i> sp. <i>Leguminous</i> sp. <i>Indigofera</i> sp. <i>Oryzarufipogon</i> <i>Panicum</i> sp. <i>Poa</i> sp. <i>Polygonum</i> sp. <i>Trianthema portulacastrum</i> <i>Vicia sativa</i> <i>Ziziphus</i> sp.
10.	Tr. C-1 Qdt-2 Layer 6	<i>Eleusine coracana</i> <i>Hordeum vulgare</i> <i>Vigna radiata</i> <i>Lathyrus sativus</i>	<i>Andropogon</i> sp. <i>Chenopodium album</i> <i>Cheno/ Ams</i> <i>Commelina benghalensis</i> <i>Convolvulus arvensis</i> <i>Cyperus</i> sp. <i>Datura</i> sp. <i>Dactyloctenium aegyptium</i> <i>Echinochloa crusgalli</i> <i>Elaeocharis</i> sp. <i>Fimbristylis</i> sp. <i>Indigofera</i> sp. <i>Leguminous</i> sp. <i>Oryza rufipogon</i> <i>Panicum</i> sp. <i>Poa</i> sp. <i>Polygonum barbatum</i> <i>Scleria</i> sp. <i>Terminalia bellerica</i> <i>Trianthema portulacastrum</i> <i>Vicia sativa</i> <i>Ziziphus</i> sp.
11.	Tr. C-1 Qdt. 3 Layer 6 + 7	<i>Eleusine coracana</i> <i>Hordeum vulgare</i> <i>Vigna radiata</i>	<i>Andropogon</i> sp. <i>Cheno/ Ams</i> <i>Cyperus</i> sp. <i>Dactyloctenium aegyptium</i> <i>Desmodium gangeticum</i> <i>Elaeocharis</i> sp. <i>Fimbristylis</i> sp. <i>Indigofera</i> sp. <i>Poa</i> sp.

1	2	3	4
			<i>Polygonum</i> sp. <i>Ziziphus</i> sp.
12.	Tr. C-1 Qdt. 3 Layer 6 + 7	<i>Eleusine coracana</i> <i>Hordeum vulgare</i> <i>Oryza sativa</i> <i>Vigna radiata</i> <i>Sesamum indicum</i>	<i>Andropogon</i> sp. Cheno/ Ams <i>Chenopodium album</i> <i>Convolvulus arvensis</i> <i>Cyperus</i> sp. <i>Dactyloctenium aegyptium</i> <i>Desmodium gangeticum</i> <i>Echinochloa crusgalli</i> <i>Fimbristylis</i> sp. <i>Indigofera</i> sp. <i>Sida</i> sp. <i>Ziziphus</i> sp.
13.	Tr. C-1 Qdt. 4 Layer 6	<i>Eleusine coracana</i> <i>Hordeum vulgare</i> <i>Vigna radiata</i> <i>Sesamum indicum</i>	Cheno/ Ams <i>Desmodium gangeticum</i> <i>Elaeocharis</i> sp. <i>Fimbristylis</i> sp. <i>Indigofera</i> sp. <i>Kochia indica</i> Leguminous species <i>Poa</i> sp. <i>Polygonum barbatum</i>
14.	Tr. ZR-9 Qdt. 3 Depth 1.90m Layer 7	<i>Hordeum vulgare</i> <i>Oryza sativa</i> <i>Vigna radiata</i>	
15.	Tr. ZB-2 Qdt. 1 Layer 6	<i>Hordeum vulgare</i> <i>Vigna radiata</i>	<i>Kochia indica</i> Leguminous sp. <i>Panicum</i> sp. <i>Polygonum barbatum</i>
16.	Tr. ZB-2 Qdt. 1 Pit 6	<i>Eleusine coracana</i> <i>Hordeum vulgare</i> <i>Oryza sativa</i> <i>Triticum sphaero-coccum</i> <i>Vigna radiata</i>	<i>Andropogon</i> sp. <i>Chenopodium album</i> Cheno/ Ams <i>Commelina</i> sp. <i>Convolvulus arvensis</i> <i>Datura</i> sp. <i>Desmodium gangeticum</i> <i>Elaeocharis</i> sp. <i>Fimbristylis</i> sp. <i>Indigofera</i> sp. <i>Kochia indica</i> Leguminous sp.

1	2	3	4
			<i>Panicum</i> sp. <i>Poa</i> sp. <i>Polygonum barbatum</i>
17.	Tr. ZB-2 Qdt. 1 Layer 6 (pot)	<i>Eleusine coracana</i> <i>Hordeum vulgare</i>	<i>Andropogon</i> sp. Cheno/Ams <i>Elaeocharis</i> sp. <i>Fimbristylis</i> sp. <i>Scirpus</i> sp.
18.	Tr. ZB-2 Qdt. 1 pit Sealed by layer (6)	<i>Eleusine coracana</i> <i>Hordeum vulgare</i> <i>Oryza sativa</i> <i>Vigna radiata</i> <i>Triticum sphaerococcum</i>	<i>Andropogon</i> sp. Cheno/ Ams <i>Convolvulus arvensis</i> <i>Datura</i> sp. <i>Fimbristylis</i> sp. <i>Indigofera</i> sp. Leguminous sp. <i>Panicum</i> sp. <i>Polygonum barbatum</i>
19.	Tr. ZB-2 Qdt. 1 Layer 7 pit	<i>Eleusine coracana</i> <i>Hordeum vulgare</i> <i>Oryza sativa</i> & impression on potsherd <i>Lathyrus sativus</i> <i>Pisum arvense</i> <i>Vigna radiata</i>	<i>Andropogon</i> sp. <i>Chenopodium album</i> <i>Commelina benghalensis</i> <i>Convolvulus arvensis</i> <i>Cyperus</i> sp. <i>Dactyloctenium aegyptium</i> <i>Datura</i> sp. <i>Echinochloa crusgalli</i> <i>Elaeocharis</i> sp. <i>Fimbristylis</i> sp. <i>Indigofera</i> sp. <i>Lathyrus aphaca</i> Leguminous sp. <i>Panicum</i> sp. <i>Poa</i> sp. <i>Polygonum barbatum</i> <i>Sida</i> sp. <i>Trianthema portulacastum</i> <i>Vicia sativa</i> <i>Ziziphus</i> sp.
20.	Tr. ZB-2 Qdt. 2	<i>Eleusine coracana</i> <i>Vigna radiata</i>	<i>Andropogon</i> sp. <i>Elaeocharis</i> sp. <i>Fimbristylis</i> sp. <i>Indigofera</i> sp. <i>Poa</i> sp. <i>Polygonum barbatum</i>

1	2	3	4
			<i>Trianthema portulacastrum</i>
21.	Tr. 1, ZA-1. Qdt. 2 Layer 6	<i>Eleusine coracana</i> <i>Hordeum vulgare</i> <i>Oryza sativa</i> <i>Vigna radiata</i>	<i>Andropogon</i> sp. <i>Chenopodium album</i> Cheno/ Ams <i>Fimbristylis</i> sp. <i>Poa</i> sp. <i>Scirpus</i> sp. <i>Trianthema portulacastrum</i>
22.	Tr. ZB-3 Qdt. 4 Layer 5	<i>Eleusine coracana</i> <i>Hordeum vulgare</i> <i>Oryza sativa</i> <i>Vigna radiata</i>	<i>Andropogon</i> sp. <i>Chenopodium album</i> Cheno/ Ams <i>Convolvulus arvensis</i> <i>Datura</i> sp. <i>Echinochloa crusgalli</i> <i>Fimbristylis</i> sp. <i>Indigofera</i> sp. <i>Leguminous</i> sp. <i>Oryza rufipogon</i> <i>Polygonum barbatum</i> <i>Salmalia malabarica</i> <i>Vicia sativa</i> <i>Ziziphus</i> sp.
23.	23. Qdt. 4 Layer 5 (pot)	<i>Eleusine coracana</i> <i>Hordeum vulgare</i> <i>Oryza sativa</i> <i>Vigna radiata</i>	<i>Chenopodium album</i> <i>Elaeocharis</i> sp. <i>Fimbristylis</i> sp. <i>Leguminous</i> sp. <i>Panicum</i> sp. <i>Polygonum</i> sp.
24.	Tr. ZR-9 Qdt. 3 Depth 2.10m Layer 8	<i>Eleusine coracana</i> <i>Hordeum vulgare</i> <i>Oryza sativa</i> <i>Lathyrus sativus</i> <i>Vigna radiata</i>	<i>Andropogon</i> sp. <i>Chenopodium album</i> <i>Commelina benghalensis</i> <i>Convolvulus arvensis</i> <i>Desmodium gangeticum</i> <i>Elaeocharis</i> sp. <i>Fimbristylis</i> sp. <i>Indigofera</i> sp. <i>Panicum</i> sp. <i>Polygonum barbatum</i> <i>Trianthema Portulacastrum</i> <i>Trigonella occulta</i>
25.	Tr. ZR-9 Qdt. 3	<i>Eleusine coracana</i> <i>Hordeum vulgare</i>	<i>Andropogon</i> sp. <i>Chenopodium album</i>

1	2	3	4
	Depth 2.05m Layer 8	<i>Oryza sativa</i> <i>Lathyrus sativus</i> <i>Vigna radiata</i>	<i>Desmodium gangeticum</i> <i>Fimbristylis</i> sp. <i>Indigofera</i> sp. <i>Oryza rupipogon</i> <i>Panicum</i> sp. <i>Poa</i> sp. <i>Polygonum barbatum</i>
26.	Tr. ZR-9 Qdt. 3 Depth 2.20m Layer 8	<i>Eleusine coracana</i> <i>Hordeum vulgare</i> <i>Oryza sativa</i> <i>Vigna radiata</i>	<i>Andropogon</i> sp. <i>Cheno/Ams</i> <i>Commelina benghalensis</i> <i>Convolvulus arvensis</i> <i>Desmodium gangeticum</i> <i>Elaeocharis</i> sp. <i>Fimbristylis</i> sp. <i>Indigofera</i> sp. <i>Oryza rufipogon</i> <i>Panicum</i> sp. <i>Polygonum barbatum</i> <i>Sida</i> sp. <i>Trigonella occulta</i> <i>Vicia sativa</i>
27.	Tr. ZB-9 Qdt. 3 Layer 8	<i>Eleusine coracana</i> <i>Oryza sativa</i> <i>Vigna radiata</i>	<i>Andropogon</i> sp. <i>Desmodium gangeticum</i> <i>Elaeocharis</i> sp. <i>Fimbristylis</i> sp. <i>Indigofera</i> sp. <i>Polygonum barbatum</i>
28.	Tr. ZR-9 Qdt. 3 Layer 8		<i>Terminalia bellerica</i>
29.	Tr. Zr-9 Qdt. 3 Layer 8	<i>Eleusine coracana</i> <i>Hordeum vulgare</i> <i>Vigna radiata</i>	<i>Chenopodium album</i> <i>Desmodium gangeticum</i> <i>Fimbristylis</i> sp. <i>Oryza rufipogon</i> <i>Poa</i> sp.

E—TRANSITIONAL PERIOD / GUPTA PERIOD (3rd cent. A.D. to 5th cent A.D.)

30.	Tr. C-1 Qdt. 1 Layer S.B.5 based on 6 Pot. no. 1	<i>Eleusine coracana</i> <i>Hordeum vulgare</i> <i>Oryza sativa</i> <i>Pisum arvense</i> <i>Vigna radiata</i>	<i>Chenopodium album</i> <i>Cheno/ Ams</i> <i>Cyperus</i> sp. <i>Dactyloctenium aegyptium</i> <i>Echinochloa crusgalli</i> <i>Fimbristylis</i> sp. <i>Indigofera</i> sp. <i>Leguminous</i> sp.
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1	2	3	4
			<i>Oryza rufipogon</i> <i>Panicum sp.</i> <i>Poa sp.</i> <i>Polygonum barbatum</i> <i>Sida sp.</i> <i>Trigonella occulta</i> <i>Vicia sativa</i> <i>Ziziphus sp.</i>
31.	Tr. C-1 Qdt. 1 Layer S.B. 5 Based on 6	<i>Eleusine coracana</i> <i>Hordeum vulgare</i> <i>Oryza sativa</i> <i>Vigna radiata</i>	<i>Chenopodium album</i> <i>Dactyloctenium aegyptium</i> <i>Fimbristylis sp.</i>
32.	Tr. C-1 Qdt. 1 Layer 4 + 5	<i>Eleusine coracana</i> <i>Hordeum vulgare</i> <i>Oryza sativa</i>	<i>Chenopodium album</i> <i>Fimbristylis sp.</i> <i>Panicum sp.</i> <i>Polygonum sp.</i> <i>Trigonella occulta</i>
33.	Tr. C-1 Qdt. 1 Layer 4 + 5	<i>Eleusine coracana</i> <i>Hordeum vulgare</i> <i>Oryza sativa</i>	<i>Elaeocharis sp.</i> <i>Fimbristylis sp.</i> <i>Indigofera sp.</i>
34.	Tr. C-1 Qdt. 2 Layer 4	<i>Eleusine coracana</i>	<i>Andropogon sp.</i> <i>Commelina benghalensis</i> <i>Fimbristylis sp.</i> <i>Indigofera sp.</i> <i>Poa sp.</i> <i>Trianthema portulacastrum</i> <i>Trigonella occulta</i>
35.	Tr. C-1 Qdt. 2 Layer 4	<i>Eleusine coracana</i> <i>Vigna radiata</i>	<i>Andropogon sp.</i> <i>Elaeocharis sp.</i> <i>Fimbristylis sp.</i> <i>Indigofera sp.</i> <i>Poa sp.</i> <i>Polygonum barbatum</i> <i>Trianthema portulacastrum</i>
36.	Tr. C-1 Qdt. 2 Layer 4	<i>Eleusine coracana</i>	<i>Chenopodium Album</i> <i>Cheno/ Ams</i> <i>Commelina benghalensis</i> <i>Fimbristylis sp.</i> <i>Indigofera sp.</i> <i>Poa sp.</i> <i>Trianthema portulacastrum</i>

1	2	3	4
37.	Tr. ZB-3 Qdt. 4 Layer 4	<i>Eleusine coracana</i> <i>Oryza sativa</i> <i>Vigna radiata</i>	<i>Andropogon</i> sp. <i>Chenopodium album</i> <i>Commelina benghalensis</i> <i>Desmodium gangeticum</i> <i>Fimbristylis</i> sp. <i>Indigofera</i> sp. <i>Oryza rufipogon</i> <i>Poa</i> sp. <i>Polygonum barbatum</i> <i>Trianthema portulacastrum</i>
38.	Tr. ZA-1 Qdt. 3 Layer 4	<i>Vigna radiata</i>	<i>Chenopodium album</i>

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Technical Studies of Iron Artifacts from Hulaskhera (Uttar Pradesh) 400 B. C.- 500 A. D. India

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1.0 Introduction

The ruins of Hulaskhera¹ are situated about 28 kms. east of Lucknow district and 6 kms. east of Mohanlalganj Tehsil on the Raebareli high way. This site covers total area of about 84 acres of land, which is surrounded by a natural lake called 'Karela Jheel' the presence of lake gives this site a resemblance to 'Jal Durg' as described by Kautilya in Arthshastra.

The Excavations at Hulaskhera were conducted by a team of archaeologists from U.P. State Archaeological Organisation. The excavations revealed that the site was occupied from the beginning of 7th C. B.C. to early Medieval Period. The periods are divided into four groups. On the basis of the pottery, other findings and carbon dating, Pd. I A & B- 700 B.C. to 200 C B.C. Pd. II 200 BC. to 300 AD Pd. III 300 AD to 500 AD Pd. IV. 500 AD to early Medieval Period.

One hundred and twenty five from artifacts of period IB to period III were received from this site by National Research Laboratory for Conservation of Cultural Property, Lucknow for conducting the metallographic studies. The studies conducted on ten artifacts from this site consisting three spearheads, Fe 10, 5, 2, a knife Fe 3, (period II^{3,4}), one chisel Fe 109 (period II) there chisels 106, 111, 116, a nail Fe 112 and needle. Fe 126 (period III⁵) have been already reported. Five artifacts from

different periods were selected for the present studies. The artifacts are two spearheads Fe 94, 79, an arrowhead Fe 24, an un-identified artifact (possibly some part of weapon) Fe 93 and an un-identified artifact (possibly arrowhead) Fe 18, (Pl. 1-1 A) the details are shown in Table I.

The spearheads, arrowhead and (an un-identified artifact) which expected to be fabricated by the advanced technology were selected for the present study being weapons. The artifacts are discussed in chronological order in this paper, these were studied to know the following aspects.

- (1) Fabrication technique used by black smith
- (2) The level of technical skill attained by Hulaskhera metal smith.

2.0 Metallographic Examination

Nearly all the artifacts from the period IB were completely mineralized and shapeless. One un-identified object (possibly arrow-head) Fe 18 was selected for metallographic studies from this period. The sampling zone was selected by the condition of the artifacts, as it had to be taken where the metal was sound, and where its

removal would not endanger the artifacts. Very small size section about 4-5mm.in length were removed from them with a Buehler Isomet low speed saw, all the section appeared to have sound metal except one from Fe 18, which was completely mineralized. The details of the sectioning is shown in Pl. 1-1A. All the specimens for metallographic studies were prepared by the standard procedures.

The treatment of the surface and cutting edge is important in assessing the weapon smith's technique including the carburization and heat treatment (quenching and tempering), but some time iron artifacts (weapon) etc. are corroded quite heavily, due to this surface layers are often missing, which could provide the information regarding the thermal history of artifact. However in some cases relic carbide structure could be seen in the mineralized metal and helped in determining the fabrication technique of artifacts.^{6,7}

The sections for microscopic purposes were etched with 2% and 5% Nital solution for 15-30 seconds. The photomicrographs were taken on cut film size 8.1x10.6 cm. and speed 125 ASA. The microhardness of these sections was determined in the scale of vicker Pyramid by Leitz Automatic Microhardness tester. The equipment was standardized with 100 gm. weight. Samples were drilled from un-corroded metal for elemental analysis by atomic absorption emission spectrographs. The Phosphorous was analysed by gravimetrically. Results are shown in Table II. Oberhoffer's solution was applied in order to reveal segregation of phosphorous.⁹ Carbon content was estimated by reading the microstructures.

3.0 Interpretation of Microstructure

3.1. Un-identified artifact (possibly arrowhead) Fe 18, period IB.

The specimen no. Fe 18 as shown in Pl. 1,1 (length 3.9 cms, width 1.0 cms weight 10.50 gms). It looks like a small arrowhead and described by excavator as an un-identified artifact. This was selected for examination as it belongs to the period IB. A small section of size 3mm. x 6mm. was removed for examination. Optical studies revealed that it was completely mineralized. The examinations at higher magnification 200 x after 5% Nital etching revealed the traces of relic carbide structure only in some areas. Most of the details near periphery giving

clue for the carburization were lost due to heavy corrosion layers. The elongated slag inclusions (black colour) were present in the mineralized metal. Analysis of the sample has not been carried out as there is no metallic portion left.

All the above facts indicates that this arrowhead was basically fabricated from the wrought iron and on which some attempts were made for attaining carburization.

3.2 Spearhead, Fe 94, period II.

This spearhead was in good state of preservation and shape (length 21.7 cm. maximum width in the middle 1.9 cm. width near the ends 1.4 and 1.0 cm. weight 68.0 gms). A section of size (4 mm. x 9 mm.) was cut from the one end as shown in Pl. 1,2 Macro examination revealed sound metal core surrounded by mineralized metal and thin corrosion layers with sand particles etc. near the periphery. Several chains of prolonged glassy silica inclusions were visible on the polished section which have survived the forging operations. The examination of the section at 50 x revealed small black colour corrosion pits scattered over the entire surface. The spearhead has edge to edge piling (Figure 1) and the

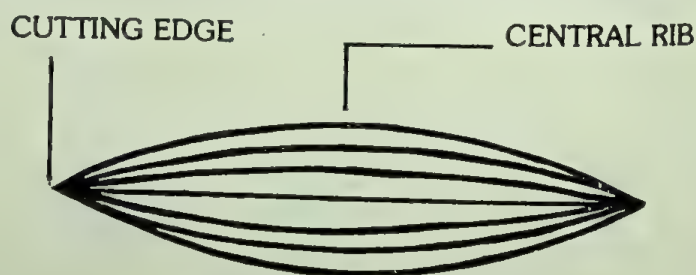


Fig. 1. Edge to edge layering

bands were of varying carbon content indicating a high degree of skill in the welding and forging operations.^{9,11} Closer examinations revealed that the metal in the section was having two layers of wrought iron (ferrite structure) and three layers of low carburized iron (pearlite structure), general macroscopic view of the layers in the section is shown in Figure 2 a, b, c and photomicrograph in Pl.3. Examination at high magnification 250 x and 500 x indicated that the metal was having ferrite and dispersed pearlite structure, in low carburized iron layer (Pl.4).

The estimated carbon content was 0.05% in wrought iron

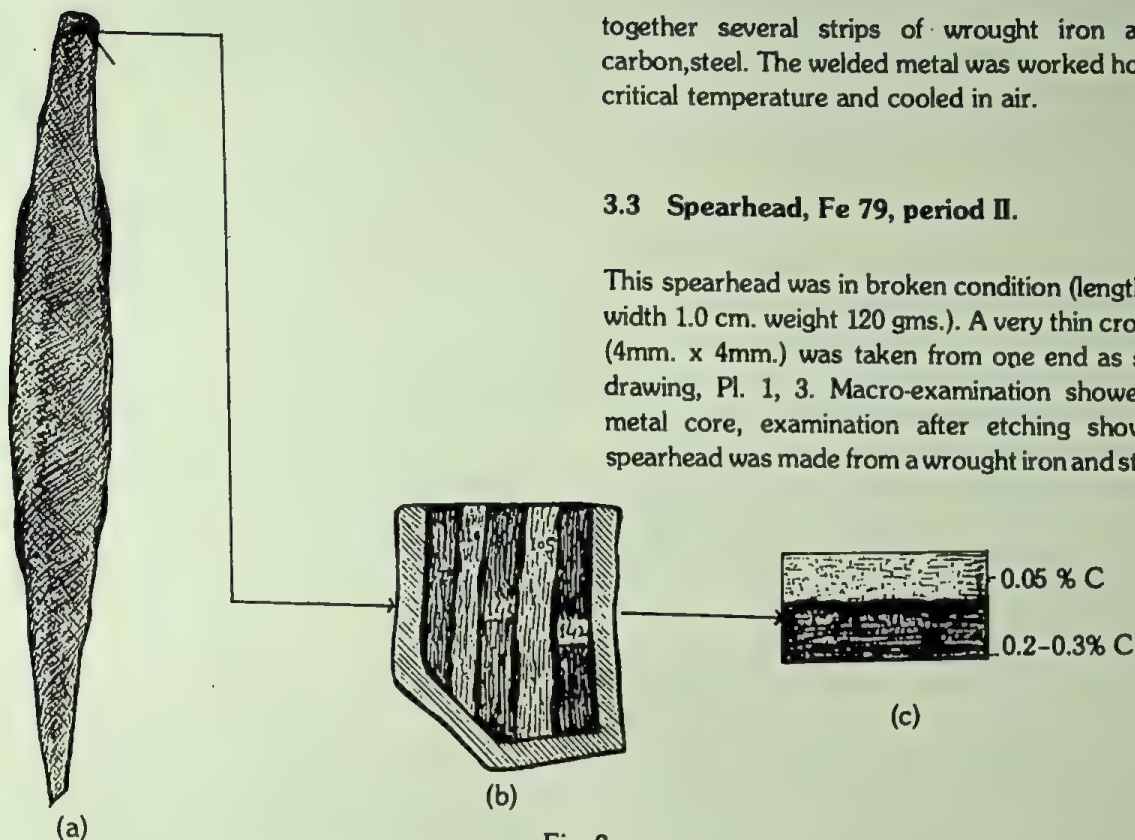


Fig. 2.

and 0.2% -0.3% C in low carburized layers (mild steel, ferrite and pearlite). The average microhardness of the wrought iron and mild steel layers was HV 110, 105, and 140, 145, 142 respectively. The structure and hardness did not reveal any indication of cold working, hardening and tempering.

All the above facts lead us to the conclusion that the spearhead was skillfully made by piling and welding

of medium and high carbon steel which had been carburized prior to lamination (piling) and forging. The wrought iron layer was rich in slag and other un-identified inclusions. A close examination of the section from weapon showed that it was constructed by edge to edge piling, (Figure 1), all having different but fairly high carbon content (medium and high carbon steel).

The carbon content varied but was not more than 0.8% C. A general macroscopic view of the structure is shown in Figure 3 a, b, c and photomicrograph in Pl.5

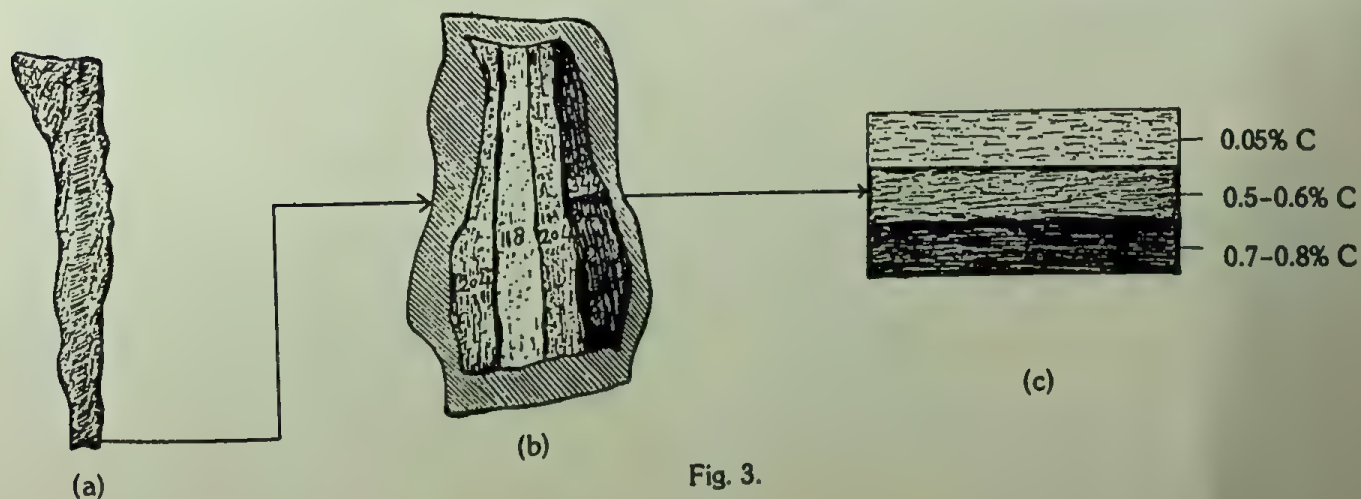


Fig. 3.

Examination at 200 x of completely pearlitic area showed very fine pearlite, (Hypo-eutectoid steel) and also revealed one high carbon layer (Hypo-eutectoid and eutectoid steel) near the periphery in one area Pl 6. Its continuity in the other side was missing due to heavy corrosion present in the peripheral area. Relic carbide structure was visible in the mineralized metal, but no cold worked, quenched and tempered structure was found. The estimated carbon content in wrought iron, low carbon (medium steel) and high carbon steel layers was 0.05% C, 0.5%-0.6% C and 0.7%-0.8% C respectively. The average microhardness of the wrought iron, medium steel and high carbon steel layers was HV 158, 204, and 344 respectively. The oberhoffer solution showed phosphorous segregated areas in wrought iron layer. The average hardness of the wrought iron was high due to phosphorous content.^{12,13}

All the above studies indicates that this weapon was fabricated from the laminated flat slab, prepared by placing alternatively the sheets of wrought iron medium and high carbon steel. The laminated slab was forged into the shape of spearhead and during final stages of fabrication was hot worked and allowed to cooled in air. No heat (quenching and tempering) treatment was given to spearhead.

3.4 Arrowhead period III

The arrowhead in 4.2 cms. in length and having maximum width of the blade 2.5 cm. In the middle, weight 9.60 gms. A very thin section of size 4mm. x 4mm. was drawn from the one area as shown in Pl. 1A, 4. Macro examinations of the section revealed sound metal core surrounded by thin layer of mineralized metal. Microscopical examinations after etching showed a edge to edge piling in the section, (Figure 1) which indicates that

the arrowhead was made up from layers of varying in carbon content. Some were almost completely ferrite with slag stringers and lines of ferrite and pearlite. Since the corrosion caused by outside agents had acted sufficiently deeper and un-evenly on the peripheral areas as revealed by the polished section, due to this factor it was not possible to determine accurately the number of different layers with the varying amount of carbon, which make up the blade. However few layers of wrought and carburized iron were counted which were five and four in number respectively. Fine grains high carbon (ferrite+pearlite) layers were present in the two areas but the continuity of these layers was lost in other areas due to heavy corrosion near the periphery. The ferrite strips (wrought iron) were particularly rich in slag inclusions of varying sizes, stretching in the direction of plastic deformation. A general macroscopic view is shown in (Figure 4- a, b, c) and photomicrographs showing laminated structure, Pl. 7-8.

Closer examination at higher magnifications 250 x and 500 x of light and dark strips revealed that they were having ferrite and dispersed pearlite structure (Hypo-Eutectoid steel (Pl.8). There was no sign of cold, working, quenching and tempering.

The estimated carbon contents of the wrought iron, low carburized iron (mild steel) and fine gain high carbon iron (medium steel) layers was 0.05%-0.1%C, 0.2% - 0.3% C and 0.4% - 0.5% C respectively. The average microhardness of the wrought iron, mild steel and medium steel layers was HV 125, 149, and 235, 249 respectively.

All the above studies lead us to the conclusion that smith prepared this arrowhead by laminated process. The pile (laminated) was made by welding together the wrought iron, mild & medium steel strips, this pile was later on forged into the shape of arrowhead, and allowed to cool

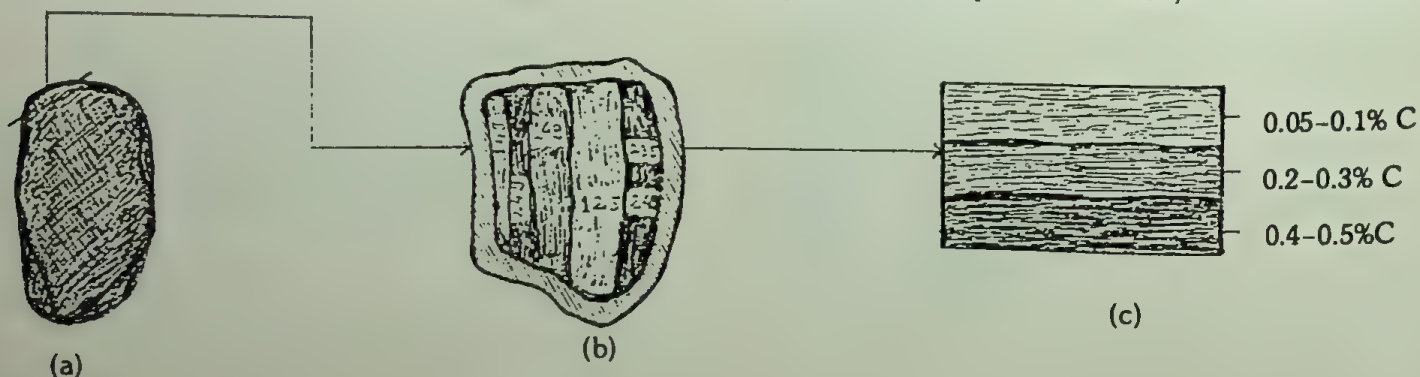


Fig. 4.

in air. The microstructure and hardness indicated that no attempts were made for quenching and tempering the arrowhead.

3.5 Un-identified artifact (Possibly part of some weapon) Fe 93, Period III.

This un-identified artifact was in U shape, the length and width of the two arms was 3.9 cm., 3.8 cm. and 0.6 cm., 0.4 cm. respectively, weight 8.80 gms. A very thin cross section of size 5mm. x 2mm. was drawn from the longer arm. Drawing of the un-identified artifact with sampling zone is shown in Pl. IA, 5. Macro examination should a sound metal core with a hollow space (black in colour) in the centre. The chains of elongated glassy silica inclusions (black colour) were visible on the polished section.

Opticals studies after the etching revealed that this un-identified artifact was also made from a large number of layers of carburized iron, which were welded together prior to forging into the desired shape. Examination at 50 x revealed that the metal in the section was having three darker bands (ferrite + pearlite in high carbon steel) and four light colour bands (ferrite with pearlite on grain boundry, low carbon steel). A general macorscopic view of the section revealing laminated (Banded) structure is shown in Figure 5-a, b, c and photomicrograph in Pl. 9. A closer examination at 250 x, 500 x revealed that high and low carbon layers were having dispersed pearlite (mild steel) structure Pl. 10. The high carbon layers (Ferrite and pearlite dark colour) were present in the core as well as near the periphery, but the high carbon layers was traceable only on the one side of periphery and not traceable on the other side due to mineralization of metal. However, some traces of relic carbide structure were noticed at 500 x in the mineralized metal. It was also

noticed that the carbon content in the high carbon layer near the periphery was slightly less in comparison to the inner layers, which was the result of prolonged hammering at high temperature during the fabrication stages. The examination shows that no attempt has been made to quench and temper the artifact.

The estimated carbon content of the high carbon (medium steel) and low carbon (mild steel) was 0.45%-0.5% and 0.2%-0.24% C respectively. The average microhardness of the low carburized steel (mild steel) layer was Hv 137, 140 and 149. The mild steel strips were particularly rich in slag inclusions, stretching in the direction of plastic deformation. The average microhardness of the high carbon (medium steel) layers near the periphery and in the inner core was Hv 191, 239, 236 and 265 respectively.

Above examination indicated that this un-identified artifact was made from the laminated slab (pile) which was fabricated by placing alternatively the sheets of medium and mild steel. All these sheets were welded and forged in the shape of flat slab, which was finally given the U shape and allowed to cool in air. The slag inclusion indicate that the medium and mild steel sheets used in the pile were prepared from the wrought iron. There is no indication of the artifact having been hardened and tempered.

4.0 DISCUSSION

The elemental analysis of these five artifacts showed that they were having iron as major constituents and silica, alumina, lime and magnesia are invariably present as impurities. The silica as silicon oxide varies from 0.80-2.85%, its presence was also indicated by metallographic examination which shows that steel was properly

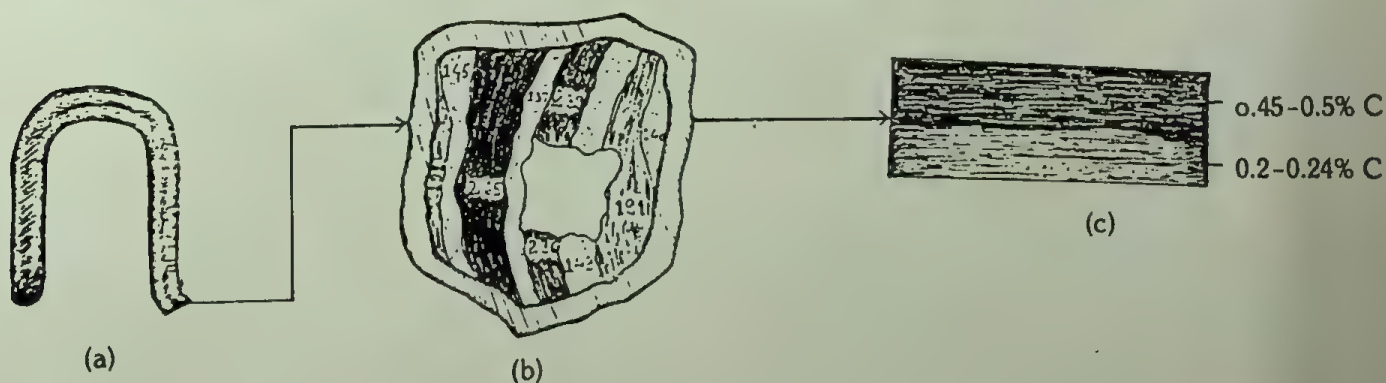


Fig. 5.

deoxidized. From the type of slag inclusions one could state that the wrought iron must have been extracted directly from the ore and not from the pig iron.¹⁴ The other constituents present as impurities are aluminium oxide, calcium oxide and magnesium oxide which varies from 0.56-1.98%, 0.38%-0.76% and 0.15%-0.78% respectively. Gravimetric analysis revealed the presence of 'P' content, which varies from <0.1-0.15%. The elevated 'P' content increased the hardness of wrought iron (pure iron) metal equivalent to the carburized metal. Its presence was indicated by metallographic examination in spearhead Fe 79. It is possible that iron containing 'P' was used as hard metal like carburized iron. 'P' also reduces the melting point of iron and might have been used because it assisted the welding process.¹⁶ Nickel, copper and titanium were in traces. The elemental analysis and metallographic studies revealed that iron metal was not extracted from meteoric-iron. The titanium as trace element in all artifacts indicates that metal was extracted from some titaniferous iron ore, from near by site. The examinations of iron artifacts of 600 B.C. from Rajghat (Varanasi) a near by site to Hulaskhera by Bhardwaj¹⁵ also indicated the presence of titanium and he concluded that the metal was extracted from some titaniferous iron ore. Metallographic and microhardness investigations conducted on the five different types artifacts from period I to III, revealed that un-identified artifacts (possibly arrowhead) Fe 18 of Period IB was of wrought iron and on which some attempts for carburization were made. Two spearheads (Fe 94, 79) of period II an arrowhead Fe 24 and an un-identified artifact (Fe 93) of Period III were built up from large number of sheets of wrought iron, mild and medium steel, and in some cases high carbon steel, which have been forge welded in laminated flat slab (pile). Welding the process, was carried out by heating the strips of metal in a charcoal furnace between 1000°C—1200°C and joining the strips together by hammering. Composite bar was forged in the desired shape, first heating to red heat and then shaping while hot on the anvil. The temperature in the last heating and working process must have been around 700°C-800°C, cold working and quenching does not seem to have been carried out at all in these artifacts (weapons).

The studies conducted on the ten artifacts comprising, three spearheads Fe 10, 5, 2 and an knife Fe 3 Period II, a chisel Fe 109 Period II. three chisels Fe 106, 111, 116, a nail Fe 112 and a needle Fe 126 Period III from this site have been reported earlier.

These studies showed that the metal smiths of *Sunga period* Period II have attained the sufficient knowledge of steel making from wrought iron. They developed the quenching and tempering technique and also Mastered in the case carburization and lamination technique and metal smiths used all these techniques for the manufacturing of weapons and tools, which required high strength shock and good wear resistance capacity. With the experiences gained from their ancestors smith of Period III mastered the heat treatment technique (quenching and tempering). They perfected this on their tools which they used for metal cutting and stone sculpturing etc. Beside carburization the Gupta smith also exploited and iron-phosphorous (Fe_3P) property, by keeping it in tolerable level in wrought iron (very low carbon iron) and used this hard metal in fabrication of articles like needle, nail and spearhead etc. No doubt that the metal smiths were having the good knowledge of steeling i.e. how to produce homogeneous mild, medium and high carbon steel, but they might have found this a more laborious and time consuming job. This has led them to switch over the lamination technique. The present study of weapons and tools indicated they developed the lamination technique around 100 A.D. and this was prevalent upto 500 A.D. The Hulaskhera metal smiths might have found this a less time consuming and more efficient technique of producing weapons and tools etc for meeting the urgent demands of warriors and other in the fort surrounded by lake (Jal Durg).

5.0 CONCLUSION

The examinations conducted on the iron artifacts mainly (Weapons & tools) from Hulaskhera site indicated that the experiments with the carburization of iron metal started here in period IB and with the experiences gained from their ancestors, developed the lamination technique for making the weapon used in war and offence purpose. Later on this knowledge was passed on to the period III. The quenching and tempering was not used alongwith lamination, but the working was mainly carried out while the metal was hot and cooled in air. The Hulaskhera metal smith did not use meteoric-iron but extracted the metal from some titaniferous iron ore and the wrought iron with elevated phosphorous content was used in the fabrication of some domestic artifacts.

TABLE—I

**DETAILS OF IRON ARTIFACTS SUBJECTED TO METALLOGRAPHIC STUDY FROM
HULASKHERA SITE (NEAR, LUCKNOW, UTTAR PRADESH).**

Sl. No.	Description of artifacts	Lab. No.	Accession No.	Cultural Association	Archaeological date
1.	Un-identified	Fe 18	222	period I B	400 B.C. — 200 B.C.
2.	Spearhead	Fe 94	649	period II	200 B.C. — 300 A.D.
3.	— do —	Fe 79	754	— do —	— do —
4.	Arrowhead	Fe 24	242	period III	300 A.D. — 500 A.D.
5.	Un-identified (possibly part of some weapon)	Fe 93	602	— do —	— do —

TABLE — II

**MICRO STRUCTURE, CARBON CONTENT AND HARDNESS OF IRON ARTIFACTS
FROM HULASKHERA (UTTAR PRADESH)**

Sl. No.	Description of artifacts	Lab. No.	Micro-structure	C% (Metallographic estimation)		Microhardness	
				Un-Carburized area, %	Carburised area, %	Un-Carburised	Carburized
1.	Un-identified	Fe 18	R	—	—	—	—
2.	Spearhead	Fe 94	F (P)L	0.05	0.2—0.24	110.115	140, 145, 142
3.	— do —	Fe 79	F (P)L	0.05	0.5-0.6—7-1.5	158	240/344
4.	Arrowhead	Fe 24	F (P)L	0.05/0.10	0.2—0.3/0.4—1.5	125	149/235, 249
5.	Un-identified (Possibly part of some weapon)	Fe 93	F (P)L	—	0.2—0.24/0/45—0.5	—	137, 140, 145, 149/191, 239, 236, 265

R — Relic carbide
F — Ferrite and slag particles (wrought iron).
P — Pearlite and Ferrite
L — Laminated (Banded carbon steel)

TABLE — III

ELEMENTAL COMPOSITION OF ARTIFACTS FROM HULASKHERA (U.P.)

Sl. No.	Description of artifacts	Lab. No.	Period	SiO ₂ %	Al ₂ O ₃ %	CaO %	MgO %	P* %	Ni %	Cu %	Ti %
1.	Un-identified	Fe 18	period I B	completely	mineralized	artifact.					
2.	Spearhead	Fe 94	period II	0.88	0.56	0.38	0.15	0.01	Tr	Tr	Tr
3.	—do—	Fe 49	—do—	1.35	1.98	0.46	0.38	0.15	Tr	Tr	Tr
4.	Arrowhead	Fe 24	period III	2.85	1.70	0.76	0.78	0.01	Tr	Tr	Tr
5.	Un-identified (possibly part of some weapon)	Fe 93	—do—	1.98	0.82	0.72	0.15	0.03	Tr	Tr	Tr

*Gravimetric analysis.

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मध्य गोमती-घाटी का पुरातात्विक सर्वेक्षण : आवासीय विन्यास

रवीन्द्र कुमार

विश्व के अन्य भागों की तरह भारत के प्रमुख नगर भी प्रायः नदियों के तट पर स्थित हैं। नगरों की समृद्धि में नदियों ने महत्वपूर्ण योगदान किया है। तटवर्ती निवासियों के लिए नदियां जलापूर्ति की स्रोत और व्यापारिक मार्ग के रूप में अत्यन्त उपयोगी रही हैं। इनके किनारे स्थित नगरों के उद्भव और विकास की प्रक्रिया को समझने के लिए अनेक शोध-कार्य हुए हैं। किन्तु, ऐसे दूरस्थ क्षेत्रों में जहां व्यापार के लिए उपयुक्त नदियां नहीं हैं वहां मानव-बस्तियों का उद्भव एवं विकास कैसे हुआ? इस समस्या को ध्यान में रखकर वर्ष 1984 से 1987 तक मध्य गोमती घाटी में स्थित सुल्तानपुर जनपद का विस्तृत पुरातात्विक सर्वेक्षण किया गया।

सुल्तानपुर जनपद के उत्तर में घाघरा नदी (सरयू) तथा दक्षिण में गंगा— जिसके तट पर अनेक नगर बसे हैं, प्रवाहित हैं। इसकी तुलना सुब्बाराव द्वारा परिभाषित अपेक्षाकृत पृथक् क्षेत्र से की जा सकती है।¹ कदाचित् यह भू-भाग मुख्य जल-संचार मार्ग से सम्बद्ध नहीं था, बहुत संभव है कि इसी कारण इस क्षेत्र में बसे किसी नगर का उल्लेख प्राचीन ग्रन्थों में नहीं मिलता है।

25° 59' से 26° 40' उत्तरी अक्षांस एवं 81° 32' से 82° 32' से 82° 91' पूर्व देशांतर के मध्य स्थित यह जनपद सामान्य भौतिक परिवर्तन दर्शाता है। उत्तर-पश्चिम से दक्षिण-पूर्व की ओर¹⁰ का उभार नगण्य है। भूमि की स्थलीय एकरूपता केवल गोमती और उसकी सहायिकाओं के कछारों द्वारा ही भंग होती है। पश्चिम और उत्तर-पश्चिम भाग की समुद्र-तल से अधिकतम ऊँचाई 105 मी० है जो क्रमशः दक्षिण-पूर्व की ओर कम होती हुई न्यूनतम 93 मी० हो जाती है। इस क्षेत्र में अनेक छोटे-छोटे छिछले गर्त हैं, जिनमें वर्षा का जल जमा होता है।

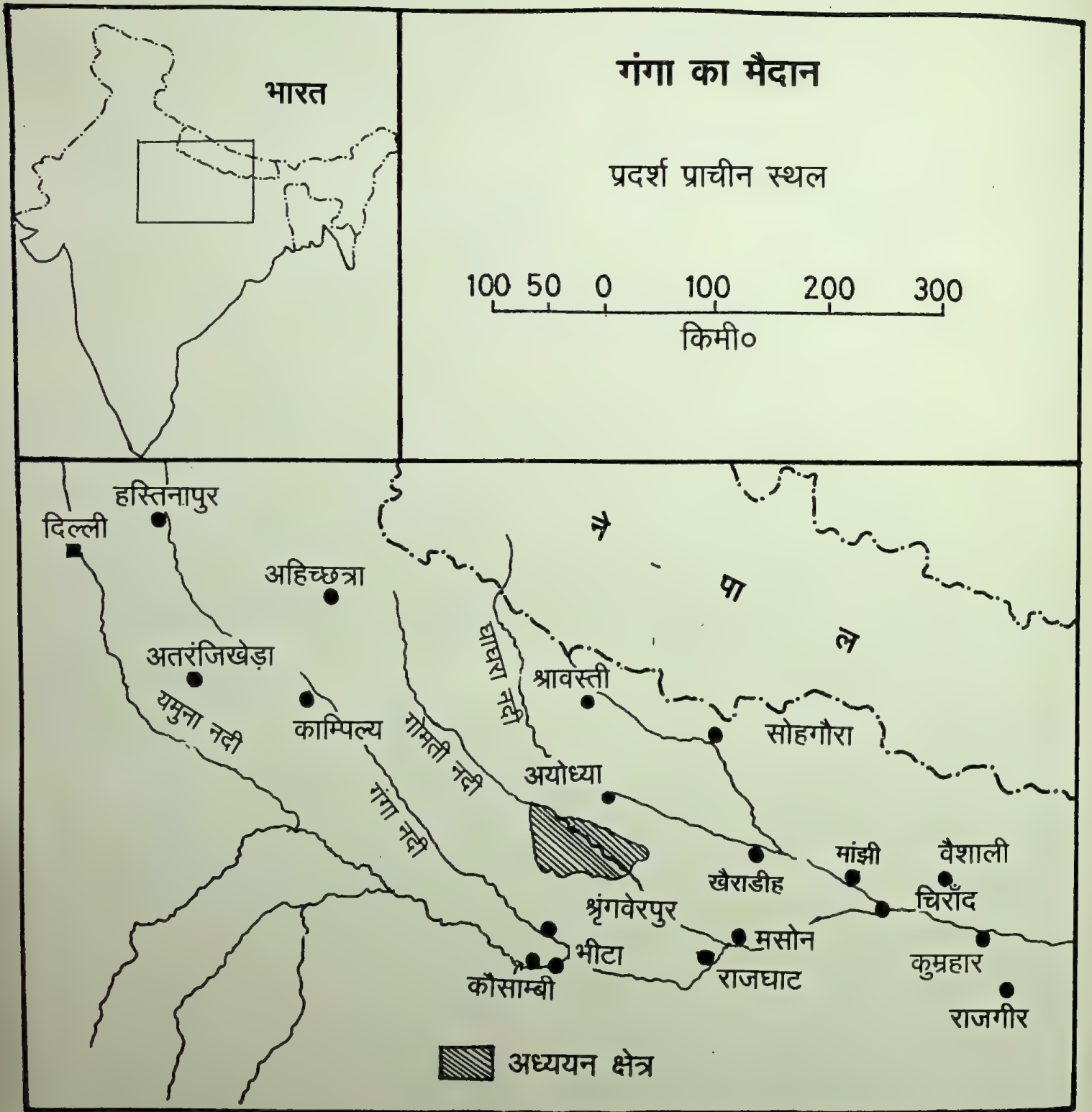
सुल्तानपुर जनपद को गोमती नदी दो असमान भागों में बांटती है। इनमें से गोमती के उत्तर का भाग छोटा और दक्षिणी भाग बड़ा है। इसके दोनों ओर हल्की बलुई मिट्टी का क्षेत्र है। इनसे आगे बांगर मिट्टी का समतल भू-भाग है। इसके आगे ऐसी ही मिट्टी की निचली भूमि वाला क्षेत्र है, उल्लेखनीय है कि ऐसे ही क्षेत्र में अधिकांश पुरास्थल स्थित हैं।

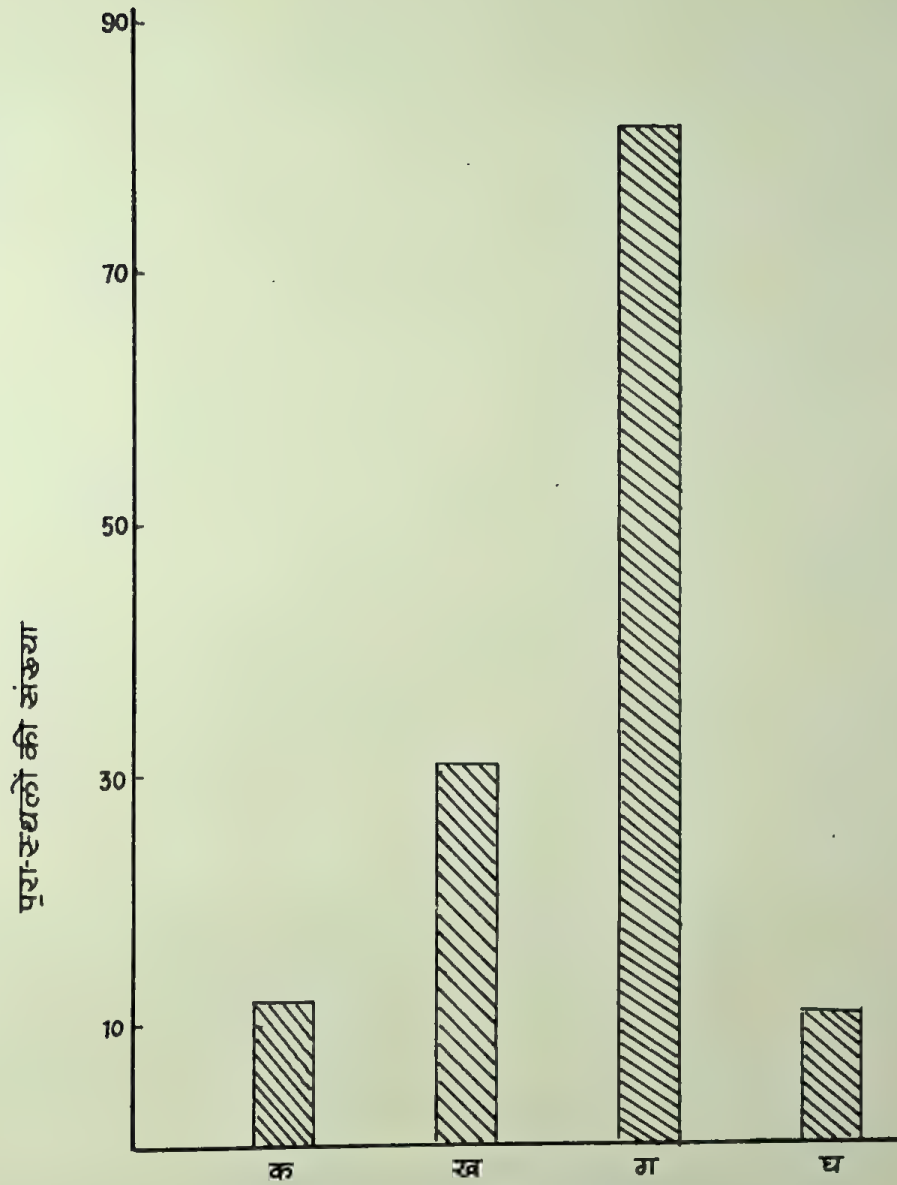
सुल्तानपुर जनपद के पुरास्थलों का छिटपुट सर्वेक्षण उन्नीसवीं शताब्दी के सातवें दशक में कनिंघम² द्वारा किया गया। तदुपरान्त लगभग 121 वर्ष के उपरान्त जोशी³ और तिवारी⁴ ने इस दिशा में कुछ और योगदान किया, किन्तु इस क्षेत्र की आवासीय-योजना (सेटलमेंट पैटर्न) को समझने के लिए और अधिक पुरास्थलों की स्थिति एवं उनके स्वरूप का अध्ययन अनिवार्य हो गया। अतएव इस जनपद का सुनियोजित सर्वेक्षण करके कुल 97 पुरास्थलों को अभिलेखीकृत किया गया। इनमें से 13 पुरास्थलों से प्रकाश में आये प्रस्तर द्वार-खण्ड, उत्तरंग तथा अलंकृत ईंटें वहां प्राचीन देवालयों के रहे होने के साक्ष्य हैं। इन स्थानों से प्राचीन आवासीय साक्ष्य न मिलने के कारण इन्हें प्रस्तुत शोध-पत्र के अन्तर्गत की गयी विवेचना में सम्मिलित नहीं किया गया है। शेष 84 पुरास्थलों में से, जहां मानव के आवास के साक्ष्य मिलते हैं, 6 पुरास्थल गोमती नदी के उत्तर में स्थित हैं। 21 पुरास्थल गोमती के किनारे पर (12 बाएं और 17 दाएं किनारे) स्थित हैं। 54 पुरास्थल गोमती-सई दोआब में हैं। जो अधिकांशतः तालाब या झील के समीप अथवा गोमती या सई की सहायिकाओं के तट पर स्थित हैं। भौगोलिक परिवेश की दृष्टि से पुरास्थलों की स्थिति निचली "बांगर भूमि" में ही है।

पुरास्थलों को काल-क्रम की दृष्टि से निम्नवत् चार वर्गों में रखा जा सकता है।

1. लगभग 200 ई०पू० से पहले के पुरास्थल
2. लगभग 200 ई०पू० के बाद से ई० सन् के प्रारम्भ तक के पुरास्थल
3. प्रथम-द्वितीय शती ई० के पुरास्थल
4. लगभग तीसरी शती ई० और उसके बाद के पुरास्थल

सर्वेक्षण से प्रकाश में आये साक्ष्यों पर सम्यक् विचार करने पर ज्ञात होता है कि मनुष्य ने पहली बार इस भौगोलिक क्षेत्र को लगभग छठी शती





तालिका 1 विभिन्न कालों के सर्वेक्षित स्थल

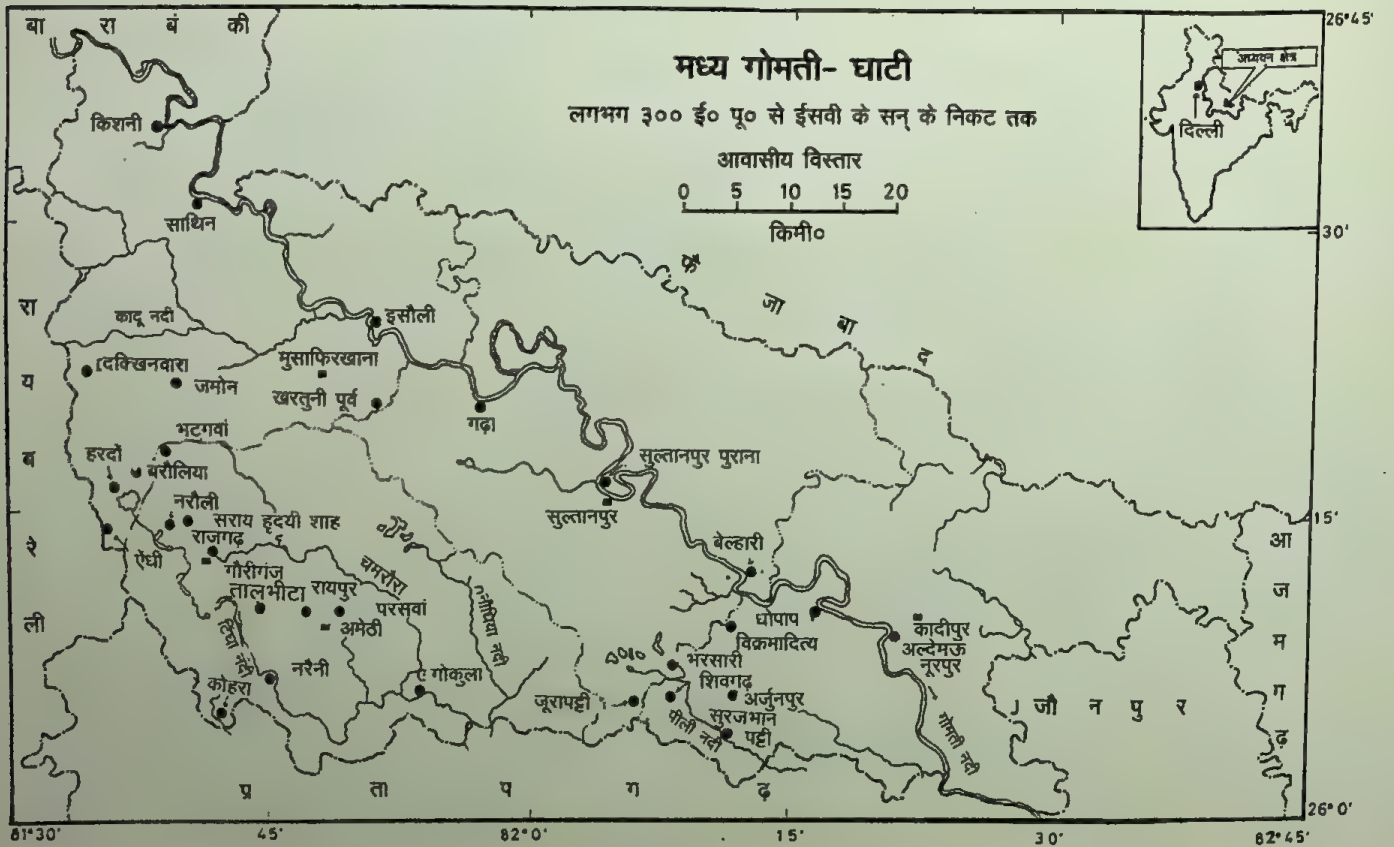
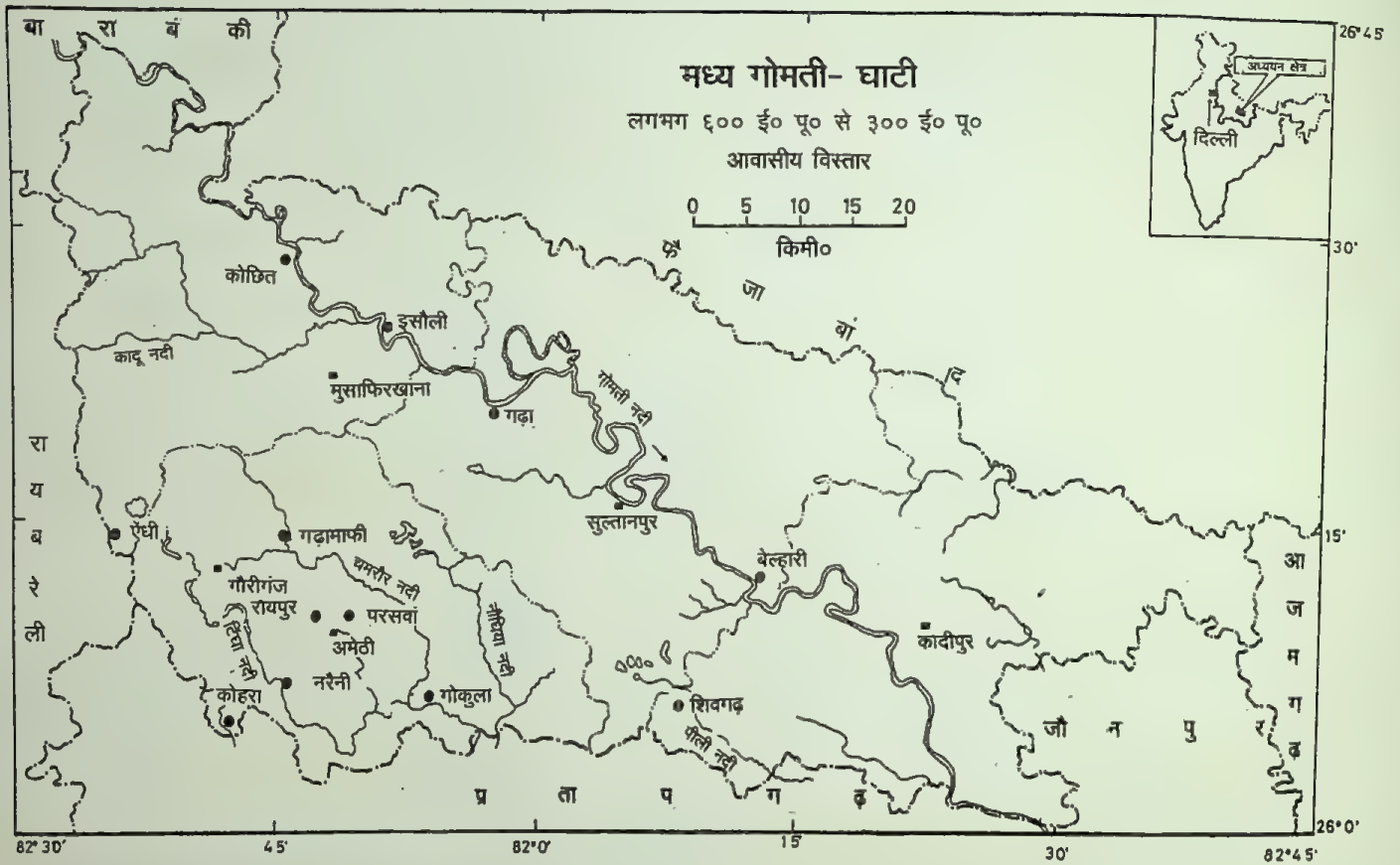
ई०पू० में निवास स्थल के रूप में चुना। यद्यपि शर्मा आदि ने इस क्षेत्र में पांच अज्यामितिक मध्याश्म कालीन स्थलों (नॉन ज्योमेट्रिक मीसोलिथिक साइट) के मिलने का उल्लेख करते हुए उन्हें चोपनी-माण्डों के द्वितीय-ए चरण से सम्बद्ध किया है⁵ तथापि हमारे सर्वेक्षण से ऐसा एक भी स्थल प्रकाश में नहीं आया है। श्रावस्ती एवं अयोध्या, जो विचाराधीन क्षेत्र से अधिक दूर नहीं हैं, के उत्खनन से भी लगभग 600 ई०पू० के पहले के पुरावशेष नहीं मिले हैं। ये प्रमाण भी हमारे सर्वेक्षण से ज्ञात तथ्यों की पुष्टि करते हैं।

लगभग 600 ई०पू० में अस्तित्व में आये अधिकांश आवासीय स्थल मुख्यतः तालों या झीलों के किनारे स्थित हैं। इनके बीच का औसत अन्तराल लगभग 5-15 कि०मी० है। ऐसे कुल 12 पुरास्थल प्रकाश में आये हैं (तालिका- 1 (क), मानचित्र सं० 2)। कुछ पुरास्थलों के अध्ययन से वहां

प्राप्त पुरावशेषों से ऐसा लगता है कि इनका विस्तार-क्षेत्र बहुत कम था और इन स्थलों पर पकी ईंटों से बनी संरचनाओं का अभाव था।

लगभग 300 ई०पू० में पुराबस्तियों की संख्या बढ़ जाती है। मृद्भाण्ड-परम्परा में नयी तकनीक एवं प्रकार मिलने लगते हैं। पकी ईंटों से निर्मित आवास पहली बार दिखते हैं। इस चरण में गोमती के किनारे पुराबस्तियों की संख्या में वृद्धि दिखती है, तथापि गोमती-सई दोआब में इनकी अनुपातिक वृद्धि अधिक दिखती है। गोमती के किनारे इस वर्ग के 8 और दोआब में 22 पुरास्थल ज्ञात हैं। इनके बीच की औसत दूरी 2 कि०मी०- 11 कि०मी० है। (तालिका- 1 (ख), मानचित्र सं० 3)

प्रथम-द्वितीय शती ई० में सम्पूर्ण विचाराधीन क्षेत्र में बस्तियों की संख्या में एकाएक वृद्धि दिखाई देती है। मृद्भाण्डों के प्रकार एवं प्रयोग में



बढ़ोत्तरी हो जाती है। पकी ईंटों से बने भवन आदि के अवशेष व्यापक स्तर पर मिलते हैं। इस चरण में गोमती नदी के दोनों तटों पर बस्तियों की संख्या में आश्चर्यजनक वृद्धि होती है। साथ ही गोमती-सई दोआब में भी इनकी संख्या बढ़ जाती है। बस्तियों के बीच का औसत अन्तराल 5 से 8 कि०मी० हो जाता है, जो इस बात का द्योतक है कि बस्तियों के समूह अधिक सघन हो गये। इस चरण में बस्तियों के विकास का चरमोत्कर्ष दिखाई देता है। तत्कालीन आवासीय स्थलों के पूर्व की अपेक्षा बहुत अधिक क्षेत्र में विस्तृत होने के साक्ष्य मिलते हैं। कुछ स्थलों पर तो इनका विस्तार एक वर्ग कि०मी० से भी अधिक हो गया। अब तक ज्ञात, यहां विचाराधीन 84 पुरास्थलों में से, 82 स्थल इस युग का प्रतिनिधित्व करते हैं।

लगभग 300 ई० एवं उसके बाद की पुराबस्तियों की संख्या में उल्लेखनीय कमी परिलक्षित होती है। ऐसी कुल 11 बस्तियां ज्ञात हैं। ऐसा लगता है कि यहां के निवासियों ने संभवतः सामाजिक-आर्थिक ढांचे में बदलाव अथवा प्राकृतिक मिट्टी में परिवर्तन के कारण इस क्षेत्र का त्याग किया। यद्यपि उपरोक्त कथन की प्रामाणिकता को सुनिश्चित रूप से सिद्ध करने के लिए निकटवर्ती क्षेत्र के और अधिक सर्वेक्षण की आवश्यकता है तथापि यहां यह कहा जा सकता है कि तीसरी शती ई० के आसपास सम्पूर्ण गंगा-घाटी में लगभग सभी जगह बस्तियों का अवसान परिलक्षित होता है। विचाराधीन क्षेत्र के साक्ष्यों के अध्ययन से ऐसा प्रतीत होता है कि इस काल में मृण्मयी मूर्तियों एवं मृद्भाण्ड बनाने की कला में गुणात्मक ह्रास हुआ। बस्तियों के बीच का औसत अन्तराल 3-10 कि०मी० हो गया (तालिका-1 (घ), मानचित्र सं० 5)।

विवेचना एवं सार

विचाराधीन अध्ययन का क्षेत्र दो प्रमुख जल संचार-मार्गों, उत्तर में घाघरा एवं दक्षिण में गंगा, के बीच स्थित होने के कारण यह आश्चर्यजनक नहीं है कि प्राचीन साहित्य में उल्लिखित कोई भी महत्वपूर्ण नगर इस क्षेत्र में स्थित नहीं है। फिर भी, सर्वेक्षण से प्रकाश में आयी सामग्री के अध्ययन से इस बात की पुष्टि होती है कि इस क्षेत्र ने नगरीकरण की दिशा में, कुछ अलग तरह से ही सही, महत्वपूर्ण योगदान किया।

विचारणीय है कि गोमती नदी के दोनों तटों पर थोड़े-थोड़े अन्तराल पर स्थित लगभग 600 ई० पू० की कई पुराबस्तियों के साक्ष्य मिले हैं जिससे ऐसा प्रतीत होता है कि यह नदी लगभग 600 ई०पू० से आज तक एक ही मार्ग से प्रवाहित हो रही है। कहीं-कहीं बहुत सीमित रूप से इसकी धारा में कुछ परिवर्तन भी दिखता है।

सर्वेक्षण से ज्ञात-तथ्य यह भी दर्शाते हैं कि प्रारम्भिक चरण में गोमती नदी के तटीय क्षेत्र की अपेक्षा गोमती-सई दोआब को बसावट के लिए अधिक उपयुक्त समझा गया। कालान्तर में इसी सन् के प्रारम्भ में यहां के निवासियों ने गोमती नदी के तटों को निवास के लिए व्यापक रूप से चुना। कदाचित् नदी की बाढ़ आदि के कारण किनारे का जीवन अपेक्षाकृत दुष्कर रहा होगा, अतएव प्रारम्भ में गोमती-सई दोआब में तालों और झीलों के किनारे बसना उचित समझा गया होगा। बाद में जब दोआब-क्षेत्र की भूमि की उर्वरता में कमी आयी होगी तो वहां के निवासियों को नदी के किनारों की ओर कूच करना पड़ा होगा।

गोमती-सई दोआब की वर्तमान स्थलाकृति एवं मिट्टी का अध्ययन करने पर प्राचीन काल में इस क्षेत्र से गोमती के किनारों की ओर मानव-प्रव्रजन के कारणों को भली-भांति समझा जा सकता है। सुल्तानपुर

के केन्द्रीय तथा उत्तरी-पश्चिमी भाग में ऊसर भूमि का फैलाव है। वर्तमान में इस क्षेत्र की जनसंख्या विरल है, दूर-दूर तक बस्तियां नहीं दिखती हैं। पुराने गजेटियर⁶ भी इस कथन की पुष्टि करते हैं। तदनुसार इस क्षेत्र की भूमि विशेष रूप से नीची है एवं अधिक वर्षा से बाढ़ आने से प्रायः क्षति होती है। जल का पर्याप्त निर्गम न हो पाने के कारण यह 'दलदलों' में संचित होता रहता है। अतः अतिसंतृप्तता के कारण मिट्टी को क्षति पहुंचती है और उसके ऊपर हानिकारक सफेद परत का विस्तार होता है, जिसे रेह या ऊसर कहते हैं। लगभग 200 ई०पू० तक स्थिति सर्वथा भिन्न प्रतीत होती है, तब तक इस क्षेत्र में मानवीय निवास के अधिक साक्ष्य इंगित करते हैं कि उस समय यहां की भूमि उपजाऊ और रहने योग्य थी, किन्तु जब मिट्टी ऊसर में परिवर्तित होने लगी तो यहां के निवासियों को उपजाऊ भूमि, यथा गोमती-तट की ओर प्रव्रजन करना पड़ा।

इस बात को ध्यान में रखते हुए कि प्रारम्भिक चरण में यहां के वासियों ने गोमती के किनारों पर न बसना श्रेष्ठकर समझा, गोमती के किनारे प्रारम्भिक चरण में पुरास्थलों की स्थिति इस बात की ओर संकेत करती है कि ये पुरास्थल संभवतः दोआब क्षेत्र एवं इस भौगोलिक क्षेत्र के बाहर के नगरों के बीच लौह अयस्क एवं अर्धमूल्यवान पत्थरों के आयात के लिए माध्यम का काम करते रहे होंगे। यहां पर यह बताना उचित होगा कि सम्पूर्ण अध्ययन क्षेत्र में खनिज एवं अयस्कों का अभाव है।

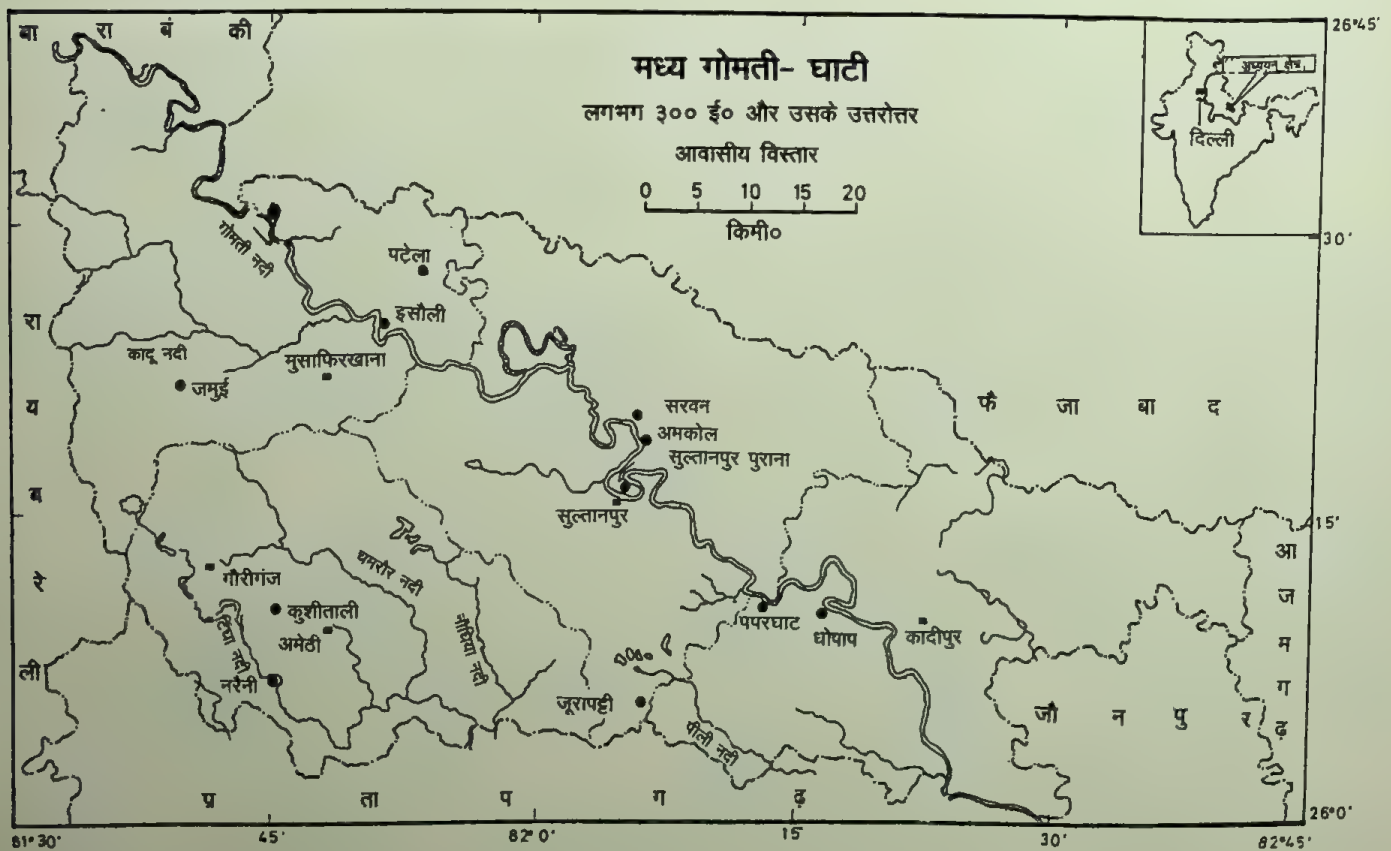
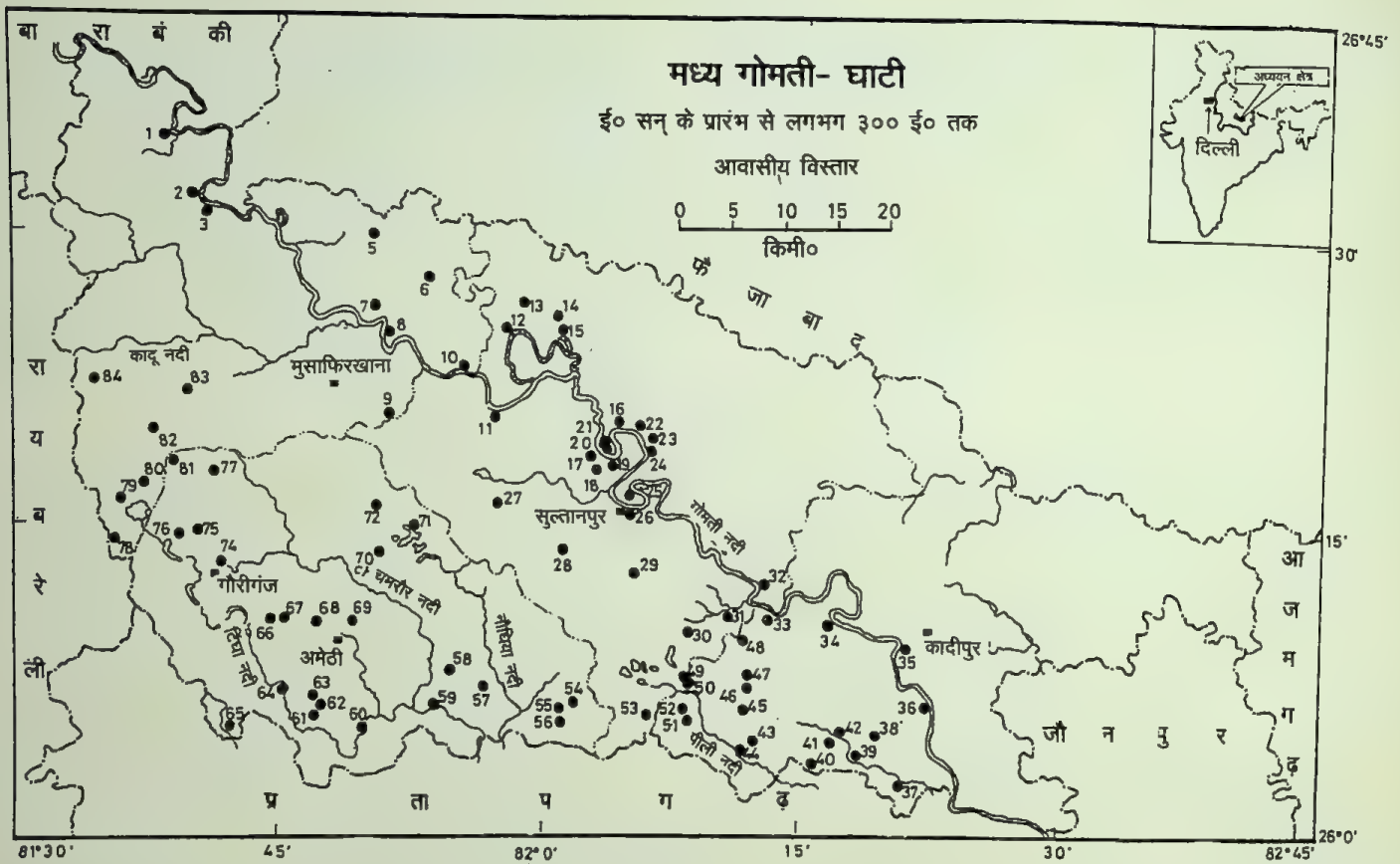
प्रथम-द्वितीय शती ईसवी में सारे भू-भाग में अनेक छोटी-छोटी मानव-बस्तियों का प्रादुर्भाव हुआ। कुल मिलाकर 82 पुरास्थल इस चरण का प्रतिनिधित्व करते हैं। ऐसा प्रतीत होता है कि पहले के भग्नावशेषों पर एवं आवास-क्षेत्र के विस्तार के साथ-साथ व्यापक स्तर पर भवन निर्माण की प्रक्रिया इस चरण में आरम्भ हुई जो वस्तुतः जनसंख्या वृद्धि की परिचायक है। उपर्युक्त तथ्य की पुष्टि इस बात से भी होती है कि बड़ी मानव बस्तियों— जो प्रथम-द्वितीय शती ईसवी में नगर या केन्द्रीय स्थलों की अभिव्यक्ति करती हैं— का उद्भव पूर्वकाल की मानव-बस्तियों के भग्नावशेषों पर हुआ, दूसरी ओर इसी काल की छोटी मानव-बस्तियों का उद्भव प्राकृतिक मिट्टी पर ही हुआ। छोटे-छोटे पुरास्थल संभवतः नगरों या केन्द्रीय स्थलों की आवश्यकता की पूर्ति करते रहे होंगे, अतएव इन्हें पूरक गांव कहा जा सकता है।

प्रथम-द्वितीय शती ईसवी में गोमती नदी के किनारे मानव-बस्तियों की संख्या में एकाएक वृद्धि का कारण संभवतः अपेक्षाकृत उन्नत तकनीक ही रही होगी जिसके कारण यहां के वासियों का नदी किनारे बसना संभव हो सका होगा। साथ ही साथ गोमती-सई दोआब क्षेत्र में जनसंख्या वृद्धि एवं मिट्टी का ऊसर में परिवर्तन भी निवासियों के नदी किनारों पर प्रव्रजन का महत्वपूर्ण कारण रहा होगा।

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प्रस्तर मूर्तियों एवं भग्नावशेषों का उन्होंने अपनी निरीक्षण आख्या (पृ० 1 से 13 तक) में उल्लेख किया है।

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डा० रवीन्द्र कुमार

प्राचीन भारतीय इतिहास संस्कृति एवं पुरातत्व विभाग
काशी हिन्दू विश्वविद्यालय
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The Kumbhāṇḍas in Indian Art and Literature

P. K. Agrawala

The roots of many diverse cults and mythical beliefs that went into the making of India's religious tradition through the centuries, are often traceable from a historical viewpoint back in antiquity to a Vedic source or to the primitive creeds of the un-Aryan or Non-Vedic races. But it is not always that a particular religious trait allows us to reconstruct a regular history of its beginning, expansion, continuity and survival. One such exclusive instance is that of the Kumbhāṇḍas¹. Under the variant names of Kumbhamuṣka, Kumbhāṇḍa (Pkt. Kumbhāṇḍa), Kūsmāṇḍa, Kuṣmāṇḍa, Kūsmāṇḍa, Kūsmāṇḍa, a distinct class of demigods or spirits is mentioned in literature, often along with such other better known semidivine beings as the Yakṣa, Nāga, Gandharva, Rākṣasa, Kinnara, Piśāca, Bhūta, etc. Virūḍhaka, who figures as the chief of the Kumbhāṇḍas, is one of the four Great Kings, Cāturmahārājas, or Guardian Deities, Lokapālas, who are frequently mentioned in the Pali canons and subsequent Buddhist works. The inclusion of Kumbhāṇḍas in the list of Four Regents of directions apparently testifies to the honour this class of genii enjoyed at one time in the popular belief. The other three members of the group are now quite familiar figures to us through the works of J. Ph. Vogel,² Georges Dumezil, R.S. Panchamukhi³, Coomaraswamy⁴, V.S. Agrawala⁵ and others.

At the earliest, the Four Mahārāja gods are specified in the *Dīgha Nikāya* not only as the regents of the four

quarters but also with respect to their presided over classes of demigods or demons :

Dhataratṭha, king of the Gandharvas in the East;

Virūḍhaka, King of the Kumbhāṇḍas in the South;

Virūpakṣa, king of the Nāgas in the West; and

Vessavaṇa-Kubera, King of the Yakkhas in the North.

As a group their presence is often mentioned at various occasions in the legendary life of the Buddha. However, from various passages in the Epics and early Buddhist literature it is amply clear that the Yakṣas were in general ascendancy over the other three groups of godlings. The Kumbhāṇḍas are not sometimes distinguished as independent of the Yakṣas and often confounded with them. In a jātaka story, for instance, the Kumbhāṇḍas occur as Kumbhāṇḍa-rakṣasas and are slaves of Kubera placed by him at the guard of a grove on his golden mountain. The same point is perhaps best illustrated at Bharhut where the statue of one guardian-deity is labelled as 'Virūḍhako yakho'⁶, not withstanding Virūḍhaka's well-known status as the Kumbhāṇḍa lord. This early tendency accounts for the subsequent loss of independent identity of the Kumbhāṇḍa class and in the later tradition they were indeed assimilated in the generic species of demigods collectively styled as the "Host" or Gaṇa types, employed at will in the servile attendance on various high-ranking gods and goddesses. But this later

fate of the Kumbhāṇḍas is hardly a matter of surprise for they are mentioned already in the *Atharvaveda* in their low-ranking role of malicious sprites injuring pregnant women and hostile enemies.

The *Atharvaveda* mentions twice a class of personified beings under the name *Kumbhamuṣka*; once in the hymn (8.6.15) employed by the ritual tradition in the Simantonnayana ceremony to guard a pregnant woman in her eighth month against Kumbhamuṣkas and other inflicting disease-demons. The other passage is part of a hymn (2.9.16-17) purported as a charm for aid in battle. *Kumbha-muska*, like *kumbha+anda*, denotes a male who has his testicles shaped like a water-pot, or "one who has pitcher-like scrotum". The word Kumbhāṇḍa is rightly understood by several modern authorities in its connotational reference as ithyphallus dwarf or ithyphallic demon. As the great commentator Buddhaghosa (c. 5th century) in his *Sumaṅgalavilāsinī* explains, the Kumbhāṇḍas were so called as "they had huge stomachs and their genital organs were as big as pots. This clearly indicates that the disproportionately big "testicles" (muṣka, aṇḍa) or genitals were the rudimentary trait of their personification while their generally featured character was that of nude males with exaggerated phallic organs and abdomen. This additional trait of their huge stomach is in fact covered by an appropriate word occurring as a name of Skanda's attendant in the *Mahābhārata*, namely *Kumbhāṇḍakodara*, i.e. "one who has his testicles as well as stomach shaped like a pitcher".

According to the *Abhidhānacintāmaṇi* of the great polymath Hemacandra (A.D. 1078-1175), Kūṣmāṇḍaka is also the form of the name which is synonymous with *Kelikila*, denoting a class of playful gaṇas. This latter word apparently refers to the frolicsome nature of the restless Kumbhāṇḍa hosts and other Gaṇas, whom we find in Indian sculpture of various periods portrayed often in the sportive and zestful moods.

In a primitive belief the enlargement of testicles to great size was attributed, besides its disease-demon aspect, most probably to the accumulation of semen therein, and with this trait was associated symbolically "ascetic impotency" as well as great virility, the same sexual-mythical motif of energy-preservation in its two paradoxical aspects or variants rooted in the ambivalence of seminal retention (cp. 'samanica-medhira', *Tāṇḍya Brāhmaṇa* 17.4.1, 3; a group among the Vratyas, meaning "who have by continence their

medhira hanging low"). Hence nudity with the pot-testicled condition was a dominant trait of Kumbhāṇḍism. In an easy elucidation of iconological concepts, it seems that the pot-testicled feature was partially assimilated with the pot-bellied nature of these personifications. Likewise, ithyphallism also came to be an additional or alternative attribute of their specification being a manifest emblem of identical symbolism. Phallism, one of the most primitive notions of fertility cultus, epitomised the male power in its inexhaustible fertility-source through the liṅgam symbol, which was essentially conceived in the image of an erect member or ithyphallus. But in Kumbhanda representations of later art, the phallic symbol appears to be basically reduced to a secondary significance and we find it often rendered in a "castrated" condition in contradistinction to the normally amplified abdomen and scrotum region. (Pl. 3), on a Kuṣṇa rail-post, from Gurgaon).

One Kūṣmāṇḍa-rājaputra occurs in the team of Four Vināyakas, mentioned in the *Mānava* and *Baijavāpa Gṛhyasūtras*. This name, literally the Son of the Kumbhāṇḍa-chief, goes to indicate the original background of myths in which the concept of Vinayaka-Gaṇeśa had emerged as one of the leading Kumbhāṇḍa personifications. From the sole mention of Vināyaka-Kūṣmāṇḍarājaputra out of the fourfold team in the list of gods to whom concluding oblations were to be made in the Vināyaka-kalpa of the *Mānava Gṛhyasūtra*, it is reasonable to guess that this Kūṣmāṇḍarājaputra-Vināyaka occupied the foremost place even in the small team of the Four Vināyakas themselves. However, several later texts also mention Vināyaka-Gaṇapati as the chief of the Kumbhāṇḍa host. For example, the *Kūrma Purāṇa* (I.22.47) enlisting chiefs of various classes of divinities, reads *kūṣmāṇḍanām vināyakaḥ*. Likewise, the name is significantly remembered as an epithet of Gaṇapati in the *Skanda* and *Garuḍa Purāṇas*. But śiva is also called Kūṣmāṇḍa-gaṇa-nātha, Kūṣmāṇḍa-gaṇa-nāyaka in the *Liṅga Purāṇa*, and also the *Lalitavistara* reading, *atha rudraḥ kumbhāṇḍādhīpatiḥ*.

At the earliest, the Kumbhāṇḍa lord Virūḍhaka seems to be shown as one of the guardian "Yakṣas" at Bharhut (mid 2nd cent. B.C.). As Cunningham remarks, "To Virūḍhaka was entrusted the guardianship of the South quarter, and accordingly the image of *Virūḍhako Yakho* is duly sculptured on the corner pillar of the South Gate." The particular pillar, now in the Indian Museum, shows this demigod standing on a figuration of rocks with caves tenanted by wild animals and birds of prey.⁶ There is no

special vehicle nor any other specific attribute which may differentiate him from other Yakṣa statues. His hands posed in the *añjali-mudrā* of adoration suggest nothing beyond his tutelary position with reference to the Buddha symbolised by the Stūpa. He even does not bear any of the peculiar traits of the Kumbhāṇḍa iconography as analysed above.

It is likewise believed that at Sanchi also the Four Great Regents were placed on the gateway pillars as guarding the four points of compass.⁷ The lower portions of the pillars in the south portal are altogether lost. However, on the back side (erroneously placed as facing the front in 1882-83 reconstruction) of the bottom lintel of this gate, Marshall identified the portrayal of the Kumbhāṇḍa genii as spouting a huge lotus-creeper covering the entire horizontal space of decoration (Pl. 1). At any rate, he failed to recognise the true nature of a depiction showing, in his words, "the great lord riding in procession on an elephant with the women of his court", on the extant lower panel of front face of west pillar of this very gateway (Pl. 2). He has described him as Indra. But we think that he is to be identified as Kumbhāṇḍa lord Virūdhaka from the cortege of pot-bellied Kumbhāṇḍa gaṇas seen as leading the procession in the foreground. Here again, the Kumbhāṇḍa overlord himself is figured as at Bharhut like the usual Yakṣa type and there is hardly any personal trait specifying his form.

A depiction of the Kumbhāṇḍas occurs in several other scenes of the Sanchi, reliefs, but it is not possible to recognise any of the figures in such a group as that of their fair-bodied lord Virūdhaka in view of his two portrayals discussed above. In the above Sanchi scene of the south gateway, the Kumbhāṇḍas are characteristically figured as nude, pot-bellied, corpulent dwarfs. In fact, Marshall himself recognised several portrayals of such genii described quite appropriately under the designation of Kumbhāṇḍa by him :-

- (1) South Gateway. Originally back (now front) face of the bottom lintel. Pl. 11, 3 of his book. Lotus-creeper spouted by Kumbhāṇḍas.
- (2) South Gateway. West face of west pillar. His Pl. 19 a-b. "a lotus stalk, issuing probably from the navel of the Kumbhāṇḍa seen in b, waving and during into a volute."
- (3) West Gateway. Pillar-capitals. His Pl. 57. "Their little bandy legs, pot-bellies, huge heads and short arms dispose us to class them among the Kumbhāṇḍas."
- (4) Stūpa III, its only gateway facing south. "On the

capitals the same dwarf-atlantes reappear as on the Western Gateway of Stūpa I."

(5) Stūpa III. Back (now front) of top lintel. Pl. 96. The Kumbhāṇḍas playing in the meanders of the lotus-creeper.

(6) Stūpa III. Back of bottom lintel. Pl. 100. "Here the artist has cold-bloodedly copied the corresponding panel on the Southern Gateway even to the details of the Kumbhāṇḍas, full or half-length....."

Except for the pillar-capitals in the Western Gateway of Stūpa I, all the above representations of these genii are positioned in their own southern quarter in a convincing manner. Their characteristic appearance in most of the cases as part of sculptural ornamentation alone goes to suggest that the artist was handling a familiar and conventionalised motif. In this light, the depiction of Kumbhāṇḍas can be well identified in the various decorative contexts and usages of similar bearing in the art of the Śunga and later periods.

Some of the illustrative roles in which they will be found to occur as part of decorative element on early monuments may be summarily mentioned below.

- I. Kumbhāṇḍa as a source of the lotus-creeper which is issued out of his navel.
- II. Kumbhāṇḍa as a source of the lotus-stalk exuded from his mouth.
- III. Creeper-bearing or Garland-bearer (*mālādhārī*) Kumbhāṇḍa.
- IV. Kumbhāṇḍa in the common role of an atlantes.
- V. Kumbhāṇḍas amidst other classes of gaṇas and auspicious creatures paying homage to the deity or his symbol, and in similar decorative settings of architectural or sculptural composition. They more often appear as hovering in the sky over or about the deity-representation or elsewhere in the monument.

In Indian art of various periods, they are employed quite freely in similar decorative contexts. Their identity will no doubt be revealed from their deformed and caricatured nude or semi-nude figure with a grotesque head, disproportionately pronounced abdomen and pelvic parts, and short stunted arms and legs.

Attention may be drawn to several other representations in early art that go to reveal the

presence of *Kumbhāṇḍas* as the *vāhana* or mount of certain divinities. We can perhaps identify a *Kumbhāṇḍa* figure under the feet of the Yakṣa-king Kubera, shown and named on a Bharhut railing pillar. Coomarswamy called this *vāhana*-figure as a *Guhyaka*,⁸ but in this specimen at least the nude crouching dwarf with his enormous belly can now be better described as belonging to the *Kumbhāṇḍa* class, that, according to one Jātaka tale, served under Vessavaṇa Mahārāja also. A Mathura railing pillar (J2, Mathura Museum), c. 2nd Cent. B.C., shows a similar dwarf-demon with protruding eyes and cone-shaped ears (*Śaṅku-karṇas*) under an unidentified Yakṣi. The so-called *apasmāra-puruṣa* or *Gaṇa* seen underneath the epiphany of Siva carved on the Gudimallam Liṅga appears also to have all the characteristics and marks of a *Kumbhāṇḍa gaṇa*. More typical example is afforded by a subsidiary figure appearing on the lower portion of a colossal Yakṣa of c. 2nd century B.C. from western India, now in the National Museum at New Delhi. As V.S. Agrawala described, "on proper left is a highly grotesque figure of a Yakṣa carrying on his shoulders an equally grotesque female figure."⁹ Comparable to this and doubtless the best illustration of a *Kumbhāṇḍa* being transporting on his back a musician Yakṣi will be found in a terracotta plaque from Mathura, now in the Mathura Museum (No. 3038; Śuṅga). Another specimen apparently cast from the same mould is in the Allahabad Museum, No. M2436.

In the legendary life of the Buddha as known from the canonical texts and early art, on several important occasions the presence of the Cāturmahārājika gods in attendance of the Master was thought iconographically consistent. But there are a few depictions in which a specific role is given to the *Kumbhāṇḍas* as conforming to the mythical requirement as well as symbolising the jubilant spirit of devotion in the festive narrative of the Life :

- (1) As carrying the car of the Buddha-elephant in the Descent scene.
- (2) As supporting the hoofs of the horse Kanthāka in the Great Departure scene.
- (3) As included in the retinue of Māra in his assault of Siddhārtha.

The inclusion of *Kumbhāṇḍas* in the army of Māra is indeed curious and mentioned in the *Lalitavistara*¹⁰. It is remarkable that in early art the number

of *Kumbhāṇḍa* figures in several of the Temptation scenes is considerably greater than all other classes of genii belonging to Māra's faction. One typical instance is from Nagarjunakonda.¹¹ Further attention may be drawn to the famous Mathura relief (MM No. 00.H.1; 2nd cent. A.D.) showing the Life in epitome. This iconographic background leads us to identify the presence of *Kumbhāṇḍas* in the party of Māra's darbar at Sanchi (back face, middle architrave, North Gateway). Marshall has not properly named the *Kumbhāṇḍa* figures in the scene, but the problem of their correct identity indeed occupied his mind while describing it, "The sculptor has given free reign to his fancy in showing this band of ruffianly genii, defromed, grimacing; and it is hard to say exactly to what they correspond in the popular mind, and whether they are Asuras caricatured or magnified Rākshasas; all we know is that they still haunt the Indian imagination, now enrolled among the gaṇas of Śiva". (On his Pl. 29). Another Temptation scene at Sanchi (east face, lowest architrave, West Gate) shows the retreating demon hosts of the *Kumbhāṇḍas* along with the other of Māra's army. They are represented both as attacking and then retiring in dejection, and the scene will be found as continued over on to the end of the architrave with several more *Kumbhāṇḍa* figures (Marshall's pls. 61 and 62).

A reference may be now made to a few early terracotta plaques showing curious *Kumbhāṇḍa* types. Writing on the Śuṅga Terracottas from Mathura, V.S. Agrawala observed in his Mathura Museum Handbook¹², "Of other common examples are the ..., and also Atlantes dwarfs (Fig. 19) and dwarfish males with conspicuous genitals (Fig. 20)." About the same types of Mathura clay figurines he commented in his article on the Mathura Terracottas.¹³ "The pot-bellied (*kukshilah*), ithyphallic (*kumbhamushkāḥ*), snouty (*tundilāḥ*) and nude dwarfs (*nagnakāḥ*) have been referred to in the Atharvaveda (VIII. 6), and this tradition of numerous Yaksha forms was carried forward in subsequent literature and art." Fig. 39 of this paper (Fig. 20 of his Handbook)¹⁴ is mentioned in the list of illustrations as "Yaksha or dwarf of ithyphallic type (*kumbhamushkā yaksha*).". Likewise, his Fig. 38 (MM. 2213) is a fragment from a moulded plaque of which a more complete specimen has been mentioned by us above and identified as a proper *Kumbhāṇḍa* type carrying a female on his shoulders (i.e. in MM. No. 3038).

However, now we have several ancient clay-figurines in

which a pot-bellied nude demondwarf with Kumbhāṇḍa features is seen representing popular type or types. In one instance, the deformed nude body is squatting on the ground or a low seat as exhibiting his huge belly and conspicuous genitals and engaged in the attitude of stretching his grotesque mouth with both his hands. A more popular posture shows the same Kumbhāṇḍa as playing on a double wind-pipe (Pl. 4). Such plaques come from Mathura and Kosam and can be assigned stylistically to the Śuṅga period in general. The third variety though of a later date (3rd or 4th century) and presumably from Rajghat, shows the Kumbhāṇḍa gana supporting quite ironically his own enormous belly with both his arms stretched around and enabling the palms to somehow hold it on either side.

There is a fourth type from Kosam, belonging perhaps to the Śuṅga period, showing the Kumbhāṇḍa with his flexed right arm as placed over the breast and the left holding some indistinct object, perhaps a staff or an animal. Another Śuṅga plaque found far afield at Taxila shows a flower in the left hand. In a specimen of the Kuṣāṇa or early Gupta style in the Lucknow Museum, the pot-bellied, grotesque-faced figure has in his right hand the stalk of a lotus; the object in his left arm may be an animal similar to the ram or sheep seen in a Mathura plaque of the Boston Museum as held by the Kumbhāṇḍa with his both hands.

A fifth type is seen in a Kosam terracotta of the first century B.C. depicting the nude Kumbhāṇḍa on his haunches, this large head is modelled like that of a lion with a mane-like beard and headgear and wide open roaring mouth. An interesting feature is a bird near his feet which is perhaps a crow, and its iconographic presence here can be explained from the association of the southern quarter both with the Kumbhāṇḍas and the god Yama, whose favourite bird is the crow.

A sixth type will be seen in a plaque recovered from Upatkot, Junagadh,¹⁵ showing the Kumbhāṇḍa in the mischievous pose of making a whistle with his fingers put in the mouth. He also has the *udare mukha* feature.

A seventh type is represented by an early Kuṣāṇa terracotta from Chandraketugarh, now in the Asutosh Museum¹⁶, showing the Kumbhāṇḍa demon as holding a tortoise coinciding with the shape of his own belly and a *ḍamarū*-like attribute. A variant of this type will be found in another late Śuṅga plaque from Chandraketugarh itself which shows a similar Kumbhāṇḍa as chewing a

python held in his right hand and holding an elephant in the left hand for the next item of his menu¹⁷.

An eighth type is seen on a late Kuṣāṇa or early Gupta plaque which depicts a large-headed Kumbhāṇḍa holding a human-faced bird, presumably Garuḍa. In comparison to the preceding type, this Garuḍa, the largest known member of the avian family, in the hand appears to be his dish of food similar to the elephant and boa held by him in the above plaque.

Apart from the above varieties of representations which feature the independent figure of the Kumbhāṇḍa in early Indian terracottas, ranging from the Maurya-Śuṅga period to the early Gupta period, we have an exceptional series of clay models in the round coming from Patna and Mathura which can be tentatively described to conceive a fantastic male figure having his lower body as shaped like a pitcher. It is not strange if in such cases, too, the artist represented yet another version or folk interpretation of the Kumbhāṇḍa physiognomy. Perhaps the best example is afforded by a Mathura figure, which shows an unshapely head surmounting a huge pitcher-body with two elongated arms encircling it around and two stumpy legs below. Another Mathura figurine of the same type, with its head missing, has quite realistically made hands, the right one carrying a bird and the left one placed near it in the pose of supporting the crock-belly.

On Maurya-Śuṅga specimen from Patna¹⁸ may also be classed along with the above two Mathura figures as it also exhibits the same figural concept, but having a mould-made beautiful head placed on the top of a hollow pitcher-body, with legs modelled below from the same clay and having applique arms coming around it and posed over the knees.

In addition to the above pieces, we remember to have seen in various Museums of north India and private collections several other clay-models and plaques of such pot-bodied and pot-bellied nude figures, which can be classified along with the Kumbhāṇḍa types. However, no photographs or specific details about them were then collected due to unavoidable reasons or the lack of proper interest on our part. It is hoped, they will be given their due attention and study in some future undertakings by scholars. It can hardly be emphasised that there are vast collections of early Indian terracottas of the Maurya-Śuṅga and Kuṣāṇa periods still awaiting a careful study for the untold wealth of iconographic and artistic evidence, which they are likely to afford.

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कुषाण युगीन अभिलिखित शिवलिंग

अरविन्द कुमार श्रीवास्तव

उत्तर प्रदेश एवं प्रदेश के बाहर के अनेक संग्रहालयों में मथुरा-कला की बहुसंख्यक प्रतिमाएं संग्रहीत हैं। इनमें कुषाण काल की सामान्य और अभिलेखयुक्त बौद्ध और जैन प्रतिमाएं प्रचुर संख्या में सम्मिलित हैं, किन्तु ब्राह्मण मूर्तियों की संख्या सीमित है, इनमें भी अभिलिखित प्रतिमाएं तो गिनी-चुनी ही हैं। मथुरा संग्रहालय में भी इस तरह की केवल एक ही प्रतिमा है, जो कुषाणकालीन अभिलिखित शिवलिंग के रूप में उपलब्ध है (40.2885)। एक अन्य अभिलिखित शिवलिंग 1988 में मथुरा संग्रहालय द्वारा स्थानीय मूर्ति विक्रेता से क्रय किया गया था, जिसका विवरण इस लेख के अन्तर्गत प्रस्तुत किया जा रहा है।

प्रश्नगत शिवलिंग लाल चित्तीदार पत्थर पर निरूपित किसी प्राचीन वास्तु- अवशेष का पुनर्उपयोग करके निर्मित किया गया है। इसकी वर्तमान ऊंचाई 97 से० मी० है। इसका आधार वर्गाकार तथा ऊपर का भाग गोलाकार एवं शीर्ष नुकीला है (चित्र संख्या- 1)। शिव क मण्ड-माल और दोनों पार्श्वों में सामने लटकती हुई एक जटा के अतिरिक्त ग्रीवा के ऊपर का भाग वर्तमान समय में अप्राप्य है। आधार के चारों कोनों पर एक-एक गण उकेरित हैं (चित्र सं०- 2)। इनमें से दो का स्वरूप लगभग एक-सा है। तीन खण्डित हैं और चौथा जटाधारी है। गणों के ऊपर लिंग-भाग पर गोलाई में दूसरी शती ई० की ब्राह्मी लिपि में तीन पंक्तियों का अभिलेख उत्कीर्ण है। जिसका पाठ निम्नवत् है :-

भगवतो ईश्वरो प्रतिष्ठपितो

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अर्थात् संवत् 86 के ग्रीष्म ऋतु के चौथे माह के पांचवें दिन भगवान ईश्वर की (प्रतिमा) प्रतिष्ठापित (की गयी)।

लिंग के वर्गाकार आधार पर दोनों पार्श्वों में पूर्व उकेरित चन्द्रशाला का आधा भाग सुरक्षित है। एक ओर इसमें कोई उकेरण नहीं है जबकि दूसरी ओर इसके अन्दर एक आवक्ष स्त्री-आकृति उकेरी गयी है (चित्र सं०-

3)। स्त्री के ऊपर उठे हुए बायें हाथ में मालादाम प्रदर्शित है।

लिंग के वर्तमान स्वरूप को देखकर ऐसा प्रतीत होता है कि किसी प्राचीन वास्तु में प्रयुक्त अलंकृत प्रस्तर-खण्ड को बीच से काटकर उसके एक भाग पर इसे बनाया गया है। दूसरे भाग के अप्राप्त रहने के कारण यह कहना कठिन है कि उसका उपयोग किस प्रकार किया गया।

प्रश्नगत सन्दर्भ में उल्लेखनीय है कि वर्ष '1984-85' में मथुरा संग्रहालय के निदेशक के रूप में मुझे मथुरा नगर के सीतलापायसा मुहल्ले में रह रहे श्री हरदेव शास्त्री के आवास पर जाने का अवसर, वहां प्राचीन मूर्तियां उपलब्ध होने की सूचना के आधार पर, मिला था। उस समय मैंने उनके आवास पर ऐसा ही शिवलिंग देखा था तथा उसका भी विवरण तैयार किया गया था। श्री शास्त्री के परिवार-जनों से चर्चा में यह ज्ञात हुआ था कि ऐसे दो प्रस्तर-खण्ड थे, एक उनके पास है और दूसरा अन्यत्र रह रहे उनके किसी सम्बन्धी के यहां है। दूसरे खण्ड का निरीक्षण अपरिहार्य कारणों से सम्भव नहीं हो सका। श्री शास्त्री के यहां उपलब्ध प्रस्तर-खण्ड का प्रयोग मूसल के रूप में किया जा रहा था। उक्त प्रस्तर-खण्ड अब उनके यहाँ उपलब्ध है या नहीं, कहना कठिन है।

अब तक ज्ञात शिवलिंगों के संदर्भ में इस लेख में विचाराधीन लिंग कई दृष्टियों से महत्वपूर्ण है :-

- (1) इसकी प्रथम विशेषता अभिलिखित होना है। अभिलेख के आधार पर इसे 164 ई० के आसपास के कुषाण शासक वासुदेव के समय का कहा जा सकता है।
- (2) दूसरी विशेषता इस लिंग के आधार पर चारों ओर गणों का अंकन किया जाना है। यद्यपि मथुरा संग्रहालय में ही उपलब्ध एक अन्य शिवलिंग (81.19) पर भी गणों का निरूपण किया गया है किन्तु इनकी संख्या दो ही है। इसके अतिरिक्त इस पर कोई अभिलेख भी नहीं है। अतः विचाराधीन अभिलिखित शिवलिंग के लेख के साक्ष्याधार पर लिंग पर गणों को दर्शाने की परम्परा को अधिक

सुनिश्चित रूप से कालबद्ध किया जा सकेगा।

- (3) सबसे अधिक महत्व की बात है इस लिंग का तोरण-धरण को काटकर बनाया जाना। यह अंकन कुषाण शासक वासुदेव के शासन-काल में, ब्राह्मण धर्म के पुनर्स्थापन के साथ शैव धर्म के संवर्धन से उद्भूत सामाजिक वर्ग प्रतिद्वन्दिता का जीवन्त प्रमाण है।

इस साक्ष्य से ऐसा लगता है कि किसी बौद्ध वास्तु के तोरण-धरण को दो भागों में काटकर, किसी शैव धर्मावलम्बी ने, दो शिवलिंग बनवाये। इनमें से एक शिवलिंग मथुरा संग्रहालय का विचाराधीन लिंग है। इस पर उत्कीर्ण तीसरी पंक्ति दुर्भाग्यवश नष्ट हो गयी है अन्यथा इस अभिलेख से कुछ और अधिक महत्वपूर्ण सूचनाएं प्राप्त हो सकी होतीं। यदि कभी धरण के दूसरे खण्ड पर

निरूपित शिवलिंग प्राप्त हो सका तो बहुत सम्भव है कि उससे दूसरी शती ई० में मथुरा क्षेत्र के शैव-धर्म के स्वरूप पर और अधिक प्रकाश पड़ सकेगा।

सन्दर्भ

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डा० अरविन्द कुमार श्रीवास्तव

सांस्कृतिक कार्य निदेशालय,
नवम् तल, जवाहर भवन, लखनऊ।

मथुरा कला का एक महत्वपूर्ण फलक

रतन चन्द्र अग्रवाल

प्राचीन भारतीय शिल्प में आम्रलुम्बि धारण किए देवी अम्बिका का अंकन ईसा की 5-6 शती में प्रारम्भ हुआ था— यह अधिकांश विद्वानों की मान्यता थी। विदिशा (मध्य प्रदेश) से प्राप्त विशालकाय एवं शृंगयुगीन कुबेर के साथ समकालीन एक यक्षी की भी प्रतिमा मिली थी जिसके वाम हस्त में आम्रलुम्बियों की विद्यमानता द्वारा हमने यह स्पष्ट किया था कि इसे केवल यक्षी न कहकर 'अम्बिका' संज्ञा प्रदान करना उचित होगा। यहां स्पष्ट है कि कुबेर के साथ अम्बिका की स्वतंत्र मूर्ति का तक्षण शृंग काल में ही प्रारम्भ हो चुका था।

माथुरी कला में दर्जनों लघु कुषाण-फलक मिले हैं जो मथुरा व लखनऊ के अतिरिक्त अनेक संग्रहालयों की शोभा बढ़ा रहे हैं, जिनमें कुबेर के साथ एक, दो व तीन देवियों का अंकन उपलब्ध है और कहीं-कहीं पर्याप्त मात्रा में शिशु लिए मातृकाओं का भी। इस विषय का विवेचन डा० नीलकण्ठ पुरुषोत्तम जोशी ने अपने शोध ग्रन्थ- 'मातृका मदर्ज इन कुषाण आर्ट'², में बड़े वैज्ञानिक ढंग से किया है। गुरुवर डा० वासुदेव शरण अग्रवाल ने भी अपने 'मथुरा संग्रहालय कैटालॉग' में इनका उल्लेख किया है परन्तु इनमें अम्बिका मातृका की पुष्टि नहीं होती है। इस दृष्टि से कौशाम्बी खनन द्वारा प्रकाश में आया एक आयताकार कुषाण युगीन माथुरी कला शिला-फलक उल्लेखनीय है जिसे हमारे अग्रज प्रो० श्री गोवर्धन राय शर्मा¹ ने प्रकाशित किया था (चित्र सं० 1)। इसका आकार है- ऊंचाई 24.2 व चौड़ाई 31.8 सेमी०। यह परम्परागत शैली में आयताकार है। श्री शर्मा ने इस फलक में कुम्भोदर कुबेर की पहचान तो ठीक की थी, इसके दाहिने उठे हाथ में 'नकुलक' व वाम हस्त में 'चषक' है। कुबेर की बायीं ओर बैठी मातृका की बायीं जंघा पर शिशु बैठा है। इस देवी की पहचान उन्होंने हारीति से की थी जो संगत नहीं क्योंकि मातृका के दाहिने हाथ में फूलों का गुच्छा न होकर स्पष्टरूपेण 'आम्रलुम्बि युगल' है। अतः इसे 'अम्बिका' माता की संज्ञा प्रदान करना चाहिए। डा० जोशी ने भी अपने उपर्युक्त ग्रन्थ में पृष्ठ 119 पर तनिक भूल की थी। इस दृष्टि से मथुरा संग्रहालय में सुरक्षित कतिपय कुषाण-फलकों का पुनरीक्षण किया जाना चाहिए। जहां-जहां यह

सोचा गया हो कि कुबेर के साथ मातृका के हाथ में फूलों का गुच्छा है, उनकी जांच पुनः आवश्यक है ताकि लक्ष्मी एवं अम्बिका का भेद स्पष्ट हो सके। इस दृष्टि से कौशाम्बी खनन से प्राप्त उपर्युक्त शिला-फलक भारतीय शिल्प की महत्वपूर्ण थाती है और माथुरी कुषाण-कला में मातृका-अंकन में एक नवीन अध्याय जोड़ने में समर्थ है।

लगभग 50 वर्ष पूर्व हमारे अन्य अग्रज डा० उमाकान्त शाह⁴ ने इण्डियन म्यूजियम, कलकत्ता के संग्रहालय में सुरक्षित एम-10, कैट० I पृष्ठ 184 शिलाखण्ड का उल्लेख किया था जो मथुरा से मिला था। यहां भी देवी ने वाम हस्त में शिशु लिये हुए दाहिने हाथ में आम्रलुम्बि धारण कर रखी है। यह प्रतिमा अभी तक अप्रकाशित है। डा० शाह ने अपने एक अन्य लेख में आम्रलुम्बि धारण किए सातवाहन युगीन अम्बिका की मृण्मूर्ति का प्रकाशन किया है⁵। कुबेर के साथ अम्बिका का अंकन कोई विचित्र बात नहीं है। भारतीय साहित्य में शिव को कुबेर का सहयोगी मित्र बताया गया है⁶। इस दृष्टि से भी कौशाम्बी का विवेच्य 'कुबेर-मातृका अम्बिका' फलक भारतीय अभिप्राय की एक सफल अभिव्यक्ति है एवं मूर्ति विज्ञान के क्षेत्र में महत्वपूर्ण है।

गुप्तोत्तर युग में तो जैन कला उपासकों ने प्रचुर मात्रा में अम्बिका का प्रदर्शन किया। अंकोटा से प्राप्त प्रख्यात 'धातु निचय' में अम्बिका की स्वतंत्र मूर्ति भी है जो विश्वविख्यात है। राजस्थान के उदयपुर सम्भाग में 'जगत' नामक स्थान से पारेवा पत्थर की बनी एक खण्डित स्वतंत्र देवी मूर्ति मिली थी जिसमें देवी के दाहिने हाथ में आम्रलुम्बिगुच्छ है। देवी ने बायें हाथ से गोट में शिशु को पकड़ रखा है⁷।

उत्तरी गुजरात के 'मातरिया' ग्राम से मिली 6-7वीं शती की मातृका-प्रतिमाओं में शिशु एवं आम्रलुम्बि लिये अम्बिका माता की मूर्ति के आसन के नीचे प्रेत लेटा हुआ दिखाया गया है जो प्रेतासना अम्बिका का द्योतक है⁸।

जगत एवं मातरिया से प्राप्त इन प्रतिमाओं द्वारा यह भी स्पष्ट हो जाता है कि शिव-शक्ति विचारधारा के अन्तर्गत पूजी जाने वाली अन्य सप्त मातृकाओं के साथ-साथ वहाँ अष्टम मातृका 'अम्बिका' भी तथैव पूजा हेतु निर्मित कर प्रतिष्ठित की गयी थीं। इस वर्ग में ईसा की पांचवीं-छठीं शताब्दियों में शिशु लिए 'क्षेमंकरी' व तथैव शिशु सहित 'आग्नेयी' भी स्वतंत्ररूपेण मातृका वर्ग में पूजान्तर्गत थीं। अतः मूर्ति विज्ञान की दृष्टि से अम्बिका, आग्नेयी एवं क्षेमंकरी की मातृरूपा मूर्तियाँ भी विशेष अध्ययन की सामग्री हैं। ऐसा प्रतीत होता है कि इस अभिप्रायः की अभिव्यक्ति कुषाणकाल में होने लगी थी।

अतः कौशाम्बी से प्राप्त माथुरीकला का विवेच्य लघुफलक सविशेष अध्ययन की महत्वपूर्ण निधि है।

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डॉ० रत्न चन्द्र अग्रवाल

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Sarnath Buddha — Origin and development of its style

Lalit Kumar

The emergence of Gupta dynasty in the history of India is an epoch making era. With the consolidation of the empire by Samudragupta, Indian culture received a fresh stimulus. A new upsurge swept the whole country with its heightened intellectual consciousness. It was a period of culmination and efflorescence which could be perceived in literature, science, philosophy and religion. The art and architecture were no exception to it. Ideals of aesthetics were changed and beauty was given a new definition. The artists began to visage their thoughts in true plastic forms. The representation of Buddha in this period is one of the best example to illustrate the new developments.

The true representation of Buddha as the term connotes was a task not yet completed, Indian genius had been striving for it since long. The image of Buddha is not a portrait but a portrayal of certain ideals embodied in it. To the early sculptor these ideals were derived from the concept of *Mahāpuruṣa* and the *Cakravartin*, for which early *yakṣa* supplied the form in which they could conceive these concepts. But the subtle concepts like *Bodhi*, *Prajñā*, *Karuṇā* and *Yoga* could not be transmuted into the concrete plastic forms. These terms were fully understood and transformed into the plastic form during the Gupta period only. This achievement revolutionized the history of Indian sculpture. An inscription on the pedestal of the Sarnath Buddha dated 474 A.D. in Sarnath Museum, reads "image of images unparalleled for its merits endowed with wonderful art"¹.

This is an appropriate appreciation of the achievement of the artist. Prof. Niharranjan Ray explains the real purport of the inscription, he writes, "If phrases of this kind mean any thing, they record the simple fact that it was by and through such images that the common man uninitiated in religious experience and untutored in speculative wisdom, experienced a perceptual realisation of the idea of which the image was the embodiment"². With this background we shall examine the Buddha images of Sarnath and the development of the school.

During the Gupta period Sarnath became a paramount centre of art. The Sarnath style claimed wide popularity and its reverberations were felt beyond the geographical boundaries of the sub-continent in South-East Asia. But scholars differ on the views of the origin and development of the Sarnath school.

A majority of scholars feel that the Sarnath school originated under the influence of Mathura art as the latter had an uninterrupted history of sculptural activities from the early centuries of the Christian era; whereas the former had developed much later. Mathura had also been exporting images to Sarnath, Prayāg, Sanchi etc., where these images must have influenced the local traditions. A.K. Coomarswamy was the first to point out the influence of Mathura art on the Sarnath style³. Later on Stella Kramarisch observed that craftsmen working at Sarnath during the fifth century had learnt their lessons from Mathura⁴. The Bodhagaya Buddha dated 384/5

A.D., alleged to be a product of Mathura atelier, has also been considered to have provided an "arche-type" to the artists of Sarnath⁵.

Some scholars give support to the above theory on the basis of the Buddha recovered from Govindanagar in Mathura in 1976⁶. The image shows diaphanous drapery which is an important characteristic feature of the Sarnath school. But before we accept it as a tangible evidence in support of the above theory the date of the image requires a careful consideration. These scholars have dated this Buddha image to the early fourth century A.D. on the basis of certain features which it shares with an inscribed and controversially dated Buddha from Mathura, now in State Museum, Lucknow⁷. Its date has been variously read as the year 230 or 280 of an unspecified era. Whatever may have been the truth in the date referred to in the inscription, it is an image which should not be dated earlier than the mid-fifth century A.D. In spite of some close affinities between these two they differ from each other especially with regard to two important features. First, the Govindanagar Buddha is a belted type of image whereas the inscribed Buddha is not. Secondly, the Govindanagar Buddha shows a prominent bulge at the genital region whereas in the latter it is absent. These differences create a wide gap between the date of the two images. On stylistic grounds we would attribute the Govindanagar Buddha not earlier than c. 400 A.D. and the inscribed Buddha of State Museum not earlier than the mid-fifth century A.D. With regard to the latter Stella Kramerisch has rightly pointed out a marked archaism in it⁹. In fact the Govindanagar Buddha in Sarnath style of drapery establishes at best the impact of Sarnath on the art of Mathura. Moreover, the diaphanous drapery, medium statured figure and greater movement in the body are some of the features alien to the art of Mathura¹⁰.

A comparative study of the Buddha from Mathura and Sarnath might be more revealing in understanding what role the art of Mathura has really played in the origin and development of the Sarnath idiom.

1. The Sarnath Buddha is subtler than the Mathura Buddha is a well known fact.
2. The *saṃghāṭī* is a feature of first and foremost importance in this comparative study. Some of the differences in the treatment of the *saṃghāṭī* at the two centres are as under:
 - (a) The Sarnath Buddha always shows plain and

diaphanous drapery whereas the Mathura Buddha shows ridge like parallel folds on the drapery. The Govindanagar Buddha discussed above and a torso of Buddha from the same site, now in the custody of the Archaeological Survey of India, New Delhi, are the only two exceptions to the rule.

- (b) The drapery folds gathered around the neck have been treated in different manner at the two centres. At Sarnath these folds are closely held on the proper right but are loosened up on the left (Pl. 1 & 2). In the Mathura Buddha the drapery folds near the neck are loosely held on both sides (Pl. 3 & 4). These are treated either in a circle or V-shape.
 - (c) The *saṃghāṭī* assumes the form of a trough at both the centres but their shape differs from each other. At Sarnath the *saṃghāṭī* assumes the rectangular form (Pl. 1); whereas at Mathura the trough of the *saṃghāṭī* assumes a curvilinear form which creates a U-shaped loop at the bottom (Pl. 4).
 - (d) At Sarnath, the hem of the *saṃghāṭī* held in the left hand of Buddha is treated in two different styles. It shows either vertical folds with frills at the bottom or zig-zag line of schematic folds (Pl. 1). At Mathura in the early period the hem of the *saṃghāṭī* moves in an undulating line, later on it possesses schematic folds some times double hem line can also be seen (Pl. 3).
 - (e) The difference between the length of the *saṃghāṭī* and the *antarvāsa* is less in the Sarnath Buddha in comparison to the Mathura Buddha, thus there is a difference in proportion of the length of the garment of Buddha at the two centres. (Pl. 1 & 3).
 - (f) The lower garment seen near the feet does not show any fold on it in case of the Sarnath Buddha. But at Mathura some folds can be seen.
3. **Waist-belt:** It holds the *antarvāsa* and can be seen through the transparent drapery at both the centres. At Sarnath it can be seen in all the images produced before the dated examples. At Mathura, the waist-belt was in vogue till 435 A.D. as evident

from the dated Buddha from the Govindanagar referred to above. But it seems to have continued until mid-fifth century A.D.

4. The figure of Buddha at Sarnath is relaxed and imparts lithe movement whereas the Mathura Buddha is columnar and statuesque.
5. The Sarnath Buddha is slender and medium statured. The Mathura Buddha is tall and massive, the features imbibed from the early *yakṣa* model.
6. The Sarnath Buddha heads show hair executed in voluted curls. But at Mathura the hair are sharply sculpted in snailshell curls (Pl. 4). The *uṣṇīṣa* is also taller in the Mathura Buddha in comparison to the Sarnath Buddha. The execution of hair at Sarnath has closer resemblance with the Vidisa Tirthankaras attributed to c.375 A.D.
7. The physiognomy of the Mathura Buddha shows accentuated features. It is done with a ridge like line around the lips, eyes, eye-brows and a dimple below the tip of the nose (Pl. 4). These features are absent in the Sarnath Buddha except for the ridge-like eye-brows. It is a feature of Mathura origin and was in vogue in the early art of Central India and Vengi. But it appears that in the second half of the fifth century only the Sarnath artists have replaced the ridge-like eye-brows by a tangential line (Pl. 1) similar to the Gandharan Buddha heads.
8. The face of the Sarnath Buddha is imbued with subtle concepts like the *Bodhi*, *prajñā*, *karuṇā* and *yoga*, imparting a higher level of spiritual experience than the Mathura Buddha.
9. The halo was given lesser importance at Sarnath right from the beginning of the school. The early fifth century witnesses a severely plain circular halo with scalloped border. Later on it has assimilated a decorative vegetal band, perhaps, under the influence of Mathura as evident by the Buddha from Sarnath in British Museum.¹¹ But the centre of the nimbus has always remained plain (Pl. 1) unlike its Mathura counterpart where the centre is always occupied by an open lotus. The halo has been a very ornate feature of the Mathura art (Pl. 3).

The comparative study reveals that the art of Mathura had played a little role in the origin and development of the Sarnath school. By and large both the great schools of Indian art jealously guarded their individual identity. Except for the Bodhisattva based on the Mathura model,

the artists of Sarnath never turned towards Mathura for inspiration during its formative period. Therefore, the popular theory that the Sarnath school originated under the influence of the Mathura art or its budding took place at Mathura, is based upon some untenable assumptions.

Sculptural Activities in the Varanasi Region

Varanasi, the nearest ancient city in the region is the most likely place where the origin of Sarnath school should be traced. During the period of the Mauryas and the Śuṅgas, the region has witnessed a considerable amount of sculptural activities. But there is a paucity of the material in the subsequent period. Unfortunately the city has also not yielded its full treasure which is still lying buried because of continuous inhabitation. The inscribed image of Bodhisattva dedicated in the reign year three of Kaniṣka by the monk Bala at Sarnath is the first and the only image imported from Mathura. Subsequently, a Bodhisattva image was carved on the basis of the Mathura model in the locally available Chunar sandstone by a local sculptor in the second-third century A.D. Some scholars feel that this Bodhisattva was also imported from Mathura.¹² This does not seem likely because it differs from the stylistic trends as witnessed at Mathura during the period. This Bodhisattva image shows the local predilections towards simplicity as can be seen in the execution of the drapery. Now the drapery folds have been reduced to a pair of crude lines in comparison to the Mathura model. Handling of such a huge mass in the present example is a remarkable achievement of the local sculptor. It refutes the suggestions that there were no sculptural activities in the region prior to the advent of the Sarnath school. In spite of it being based on the Mathura model the treatment of the body considerably differs. The bust is not robust and expansive. The abdominal bulge and deep navel of the Mathura tradition have been significantly reduced. Delicately carved supple fingers of the left hand are unlike the clenched fist denoting power and dignity of the early *yakṣa* models.

The advent of the imperial Guptas must have brought some changes in the life of the city Varanasi and Sarnath gradually began to regain its lost importance. New Buddhist fervour in the city must have placed increased demands of Buddhist imagery. This perhaps led to the creation of Sarnath Buddha of their own perception. In this regard the available material shows that the local sculptors did not turn to any centre of art, including

Mathura for inspiration. Evidences are available to show a phase of experimentation in the region which perhaps began in the fourth century A.D. With regard to the sculptural activities in the third-fourth century in this region Dr. Anand Krishna has convincingly shown a local tradition of art illustrated by a solitary example of a head of a devotee carrying a Śiva-liṅga in Bharat Kala Bhavan, Varanasi¹³. There are some sculptures which can be ascribed to the end of fourth century A.D. These are :

- (i) The churning of milk and baby Krishna (Acc. No. 180) in Bharat Kala Bhavan, Varanasi¹⁴ (hereafter referred to as B.K.B.).
- (ii) A standing female figure¹⁵ (Acc. No. 4052), now in Amer Museum.
- (iii) Ek-mukha linga¹⁶ (Acc. No. 23946) in B.K.B.
- (iv) A seated Matrika¹⁷ at Harishchandra Ghat in Varanasi.
- (v) An inscribed image of Hariti from Sarnath in Sarnath Museum¹⁸.

These evidences are sufficient to show the technical experience of the local artists in handling of mass.

Chronology

A small standing image of Buddha (Ht. 042 m) in Bharat Kala Bhavan is the earliest image of Sarnath style brought to light by the present writer. Interestingly it hails from Varanasi city. Buddha is standing relaxed against severely plain stele. He is wearing a diaphanous *ubhāyanśika saṅghāṭī* which is unique in its execution. The drapery folds on the edges and in between the legs have no parallel. This treatment of drapery, alongwith a circular *urnā* marked on the forehead and small hair curls on the head executed in horizontal line, warrant an early date of the image. The figure is characterized by its broad shoulder, prominent chest, and slightly attenuated waist. Legs are carved disproportionately, hence it look dwarfish. Its physiognomy shows a roundish face, half shut eyes not concentrating at the tip of the nose, eye-brows delineated in ridges running slightly high and a small mouth with pudgy lower lip. The lower garment is held firmly with a waist-belt tied towards the left with its free ends falling on his thigh. Both the hands are lost but

reminiscence of the right hand shows that it was raised high near the shoulder. Legs are carved realistically and there is no abstraction in their form. Slight bulge in the genital region may be noted. In this way one may find certain late Kushana features lingering in this image and, therefore, it can be safely attributed to c.400 A.D. It is the earliest image of Buddha in Sarnath style and perhaps earlier than the Govindanagar Buddha discussed above. It is important to note that Buddha in B.K.B. does not show any influence of Mathura art.

The Buddha 1B (a) 3 in the Sarnath Museum²⁰, seems to have been produced during this formative period of Sarnath style. It is fashioned in the older tradition of Bal's Bodhisattva. But the treatment of the body and execution of drapery show further advancement in style. The torso is well modelled and slim. The navel is significantly reduced. Legs show some abstraction in their forms. The knees are round. The robe is without any mark of its folds. However, some folds on the edges and between the legs are seen but their volume has been considerably reduced in comparison to the Buddha of B.K.B. discussed above. Therefore, stylistically the present Buddha should be assigned to the early quarter of the fifth century A.D.

The standing Buddha from Sarnath, now, in Indian Museum, Calcutta, is also attributed to this formative phase. In this image the unusual placing of hands lead us to attribute it to this phase of art of Sarnath. The treatment of the torso can be compared with the Buddha [B (a) 3] discussed above. Legs are treated naturalistically with its prominent shin bone as seen in the Buddha of B.K.B. Ear lobes are relatively short. The figure shows a considerably evolved physiognomy of the Sarnath style. The nimbus is conspicuous by its absence.

In the second quarter of the fifth century the iconology of the Sarnath Buddha seems to have been completed and in the subsequent period efforts were continued to execute the subtle body of "pure Being" in the plastic form. The Buddha [B (b) 1] of Sarnath Museum represents the style of this phase²¹. A circular nimbus with its scalloped border is introduced here for the first time. The body does not show any significant development but reduction in the volume of drapery folds can be seen on the edges and in between the legs. The waist belt and building genital region are the two features which still persist.

During this phase some Mathura influences become

apparent at once in a standing Buddha from Sarnath, now in British Museum, London²². It can be seen in the ornamental vegetal band on the halo. At the same time Sarnath has rejected a Mathura feature. Now the ridgelike eyebrows are replaced and delineated by a single tangential line like the Gandharan Buddha heads. With regard to the treatment of legs some abstraction in their form with emphatic knees may be observed. In order aspects it is similar to the nimbated Buddha from Sarnath discussed above.

A standing Buddha which has lost its lower legs, in the collection of National Museum, New Delhi, is the intriguing example from Sarnath (Pl. 2). It can be attributed to the second phase of the development of Sarnath school.

The image is carved in Chunar sandstone but has apparently followed Mathura style except for the robe and its folds near the neck which are executed in Sarnath style. It has Mathurasque physiognomical features which can be compared with Mankuwar Buddha dated 449 A.D. The deep navel also reminds of Mathura tradition. Significantly, the genital bulge has disappeared. It is an important change but the waist belt is still in vogue. In spite of its expansive body, this Buddha has been attributed to this phase of art. Similar treatment of the body can be observed in an inscribed torso of Buddha in Sarnath style recovered from Bhita near Allahabad,²³ now in State Museum, Lucknow. It is perhaps the first image which was exported from Sarnath. Here Mathura influence is readily apparent in the representation of donors on the pedestal. Palaeographically it has been rightly ascribed to the fifth century by Fleet²⁴. But stylistically it is contemporaneous to the Buddha of the National Museum, New Delhi, referred to above.

After this began the phase of maturity in which all dated examples were produced. During this period the Buddha dated in the year 474 and two others of 477 A.D. were produced. They represent the fuller understanding of subtle concepts which were transformed in to the plastic form. The waist-belt is conspicuous by its absence which is replaced by a thin string without any knot.

Impact of Sarnath on Mathura Art

Though it is not certain as to when Sarnath style originated, but there is no doubt that it evolved some time

in the fourth century A.D. as it is apparent from the Small Buddha in the collection of Bharat Kala Bhavan discussed above. The first impact of Sarnath on the art of Mathura is discernable in the drapery of the Govindanagar Buddha (76.26) discussed above. However, it did not leave any impact on the art of Mathura. Half a century later, another torso of Buddha in Sarnath drapery was produced. It has also been recovered from Govindanagar. But again it did not influence the future art of Mathura.

There are two more Buddha images from Govindanagar site on which Sarnath influence is apparent in their rectangular trough form of the robe²⁵. Both the images can be assigned to the second quarter of the fifth century A.D. Less difference in the length of the *Saṃghāṭī* and *antarvāsa* is also a feature of Sarnath style which can be seen in the Govindanagar Buddha dated 435 A.D.

Sarnath influence was not only confined at the site of Govindanagar in Mathura. The Buddha from Mathura, now housed in Rastrapati Bhavan, is another example in which drapery folds near the neck and schematic folds on the hem show Sarnath influence beyond doubt.²⁶ This image of Buddha can also be assigned to the second quarter of the fifth century A.D.

In the light of these influences from Sarnath travelling towards Mathura²⁷, it would not be difficult to explain the Sarnath influence on the Buddha from Bazidpur, a site near Kanpur, in the collection of State Museum, Lucknow. (Pl. 5). It is carved in locally available stone. It seems to be a handiwork of some sculptor who migrated from Mathura and was influenced by the fashion of Sarnath drapery. This can also be assigned to the second-quarter of the fifth century A.D.

Impact of Mathura on Sarnath Art

The first perceptible influence of Mathura as has already been pointed out is seen in the vegetal band on the halo of the Buddha from Sarnath in the collection of British Museum, London. It has been dated to the second quarter of the fifth century A.D.

By far the most pronounced influence of Mathura art has been detected in the Buddha from Sarnath (Pl. 2) now in the collection of National Museum, New Delhi, discussed earlier. It is carved in Mathura style except for the drapery and the stone which belong to Sarnath. It may be

observed that Sarnath has not yielded any image of Mathura origin and of the Gupta period which would have otherwise influenced the style of this particular Buddha. Therefore, possibilities of its being a copy based upon some Mathura model can be ruled out. It is, difficult to explain how Mathura could exert such a profound

influence on the Buddha of National Museum.

It seems to be a work of a Mathura artist who had migrated to Sarnath. Whatever may have been the truth this Buddha is a work of a sculptor who was trained in Mathura style but he adopted the diaphanous foldless drapery while working at Sarnath.

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Observations on a Kausambi Seal-die with an Incomplete Legend

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The seal die under discussion is in the collection of the National Museum, New Delhi. The accompanying photographs was kindly supplied by Shri (now the Late) C. Sivaramamurti, the then Director of the Museum.

The seal shows, in the upper field, the device of Gajalakshmi, i.e., Lakshmi being anointed by the elephants, one on either side. Below the device is a two-line legend with sunken letters in reverse, in the characters of circa fourth or fifth century A.D. The legend is incomplete, a few letters, both in the beginning and the end of both the lines, being out of flan. The extant legend reads :

1.śvapati mahādaṇḍanāyaka
2.grīhita kumārāmā.....

Fortunately, the legend can be fully restored with the help of certain sealings bearing identical device and legend unearthed at Bhita, district Allahabad, in the course of excavations conducted by Sir John Marshall and published in the *Annual Report of the Archaeological Survey of India* for the year 1911-12¹. In this there are in all ten such sealings reported from that site, of which only the most well preserved one bearing the complete legend has been illustrated². The legend on this sealing reads :

1. *Mahāśvapati - mahādandanāyaka*
Vishnura-
2. *kshita-pādañugrīhita kumārāmātya-*

dhikaranasya

(seal) of the office (*adhikarana*) of *kumaramatya* attached to the *mahsuapati* (great lord of cavalry) and *mahādaṇḍanāyaka* (great general) : One such sealing, though not so well preserved was noticed by us in the collection of Shri (now the late) Ramachandra Tandon of Allahabad.

The evidence gleaned from other epigraphs shows that a *kumārāmātya* could be attached to the king³ and *yuvarāja*^{3a} and could also be appointed as heads variously of a province⁴, district⁵ or a city⁶. He could also hold charge of the sacred spring the water of which was used for coronation of Lichchhavi chiefs. The evidence of the Bhita sealings shows that this official could at times also be attached to a higher cadre government dignitary⁷, in this case one who was designated as *mahāśvapati-mahādaṇḍanāyaka*. *Mahādaṇḍanāyaka* can and has been translated variously as a 'general'⁸, or 'police officer'⁹ or a 'judge'¹⁰. There is also a possibility that the title characterised a feudal lord¹¹.

Sealings bearing incomplete legend and device are not uncommon. The most common reason for this feature is that the die used for stamping was larger than the clay lump on which stamp was impressed, and thus part of the legend or/and device remained out of flan. In a few cases, it might be due to the improper handling of the die while

stamping, in which case part of the lump of the moist clay might remain unstamped, while part of the device and/or legend would be out of flan.

But the die itself bearing an incomplete legend, as is the case with the one under discussion is rather curious. The following explanation may be offered for this peculiar feature.

It seems that the seal-die of the office of the *kumārāmātya* got broken. There was a pressing need for sealing the documents and hence a new seal-die had to be prepared within a short period. Since manufacture of a seal-die entails inscribing the device and letters of the legend in reverse form, demanding some technical skill and time, as a short-cut stop-gap arrangement, a seal-impression, made from an earlier die, was pressed against a wet lump of clay to produce sunken letters and device in reverse form to serve as a seal-die. Incidentally, the seal-impression used for making the seal-die, was one which did not bear the complete legend, part of it being out of flan. Naturally, therefore, the seal-die under discussion is characterised by the curious feature of not showing the complete legend.

The seal-die under discussion is sun-baked and not kiln-baked, which feature also lends support to the view that it was made in a hurry to meet some urgent need. Impressions from it would naturally have been made by gently pressing it against the moist clay-lump, and not by striking on it, as, in the latter case, the die, unbaked as it was, would have got broken in the process.

It is well-known that in the context of the Harappan culture, seal-dies have been found in a large number, while seal-impressions found therein are a few only. In the historical period, however, the case is the reverse, hundreds of seal impressions have seen the light of the day, whereas seal-dies found are few and far between¹². Hence the find of a seal-die of the Gupta period assumes some significance. However, it is not merely the rarity that makes the seal-die under consideration more important than the seal-impression, there is a weightier reason for that. The find-spot of a die usually provides a reliable clue to the place where impression of the seal was made, which is hardly possible to ascertain from the find-spot of a seal-impression. The sealings, applied as they are to letters and parcels despatched to different destinations are generally found at places far off from the localities of their origin. On the other hand, seal-dies, meant as they are for sealing the documents by the owner

of the seal, would generally be found at the place from where letters and parcels bearing their stamp were despatched.

As stated above, the seal-die under discussion, on palaeographic grounds, belongs to the Gupta period, and the region around Kauśāmbī, the find-spot of the seal, undoubtedly formed part of the Gupta empire. This city which earlier had been the capital of Vatsa *Janapada*, was, in all probability, provincial headquarter during the rule of the Gupta dynasty, at least from the reign of Chandragupta I. *Māhaśvapati-Mahādandanāyaka* Vishnurakshita seems to have been a feudatory of the Gupta and also their governor of that province.

Since the seal-die of the office of *kumaramatya*, has been found at Kauśāmbī, it is reasonable to presume that it originated in that ancient city. Further, it would naturally follow that the office of *kumārāmātya*, who was attached to *Mahāśvapati-Mahādandanāyaka*, was located at that city.

As stated above, ten sealings of the office of *Kumārāmātya* attached to *Mahāśvapati-Mahādandanāyaka* Vishnurakshita have been found at Bhita, a site not very far from Kauśāmbī and both being situated in the Allahabad district. Excavations at Bhita have yielded some sizable structure, town-wall, pottery, terraocotta figures, seals, coins and other antiquities in large number, indicating that it was an important ancient town. It seems during the Gupta period, Bhita was an administrative unit perhaps tehsil headquarters within Vatsa province. The find of a sealings referred to above at Bhita indicate that they were attached to the correspondence despatched by the office of *kumārāmātya* at Kauśāmbī to some government official stationed at Bhita. The place of origin of the Bhita sealings unearthed in the excavations conducted by Marshall and referred to above was not known. The seal die under discussion, as shown above, with its provenance at Kauśāmbī, have provided an unmistakable clue to their place of origin.

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Fragments Of Pratihara (?) Records From Sanichara (Sultanpur)

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In the field of north-Indian epigraphy fragmentary records are common feature and those which could be spared of the vagaries of time are the rarest. Whether we call it an irony of fate or address it as a poor state of affairs, the fact remains that alongwith so many temples, icons and sculptures, our inscriptions also have reached us only in their badly distorted, defaced or in their fragmentary shapes. As a result, the common habit amongst the professional epigraphists engaged with north Indian epigraphs is the temptation for restoring the portion of the text which is lost, lamentation because it is rarely possible and finally, the reconciliation with the poor state of affairs as it is.

Unfortunately, the fragments we are occupied with presently, do reflect on the similar state of affairs, causing us once to feel tempted when we think that all the three pieces formed the part of one and the same record and a portion of some of its text could be safely restored but faced with the disappointment, lament the next moment on our failure in doing so and finally, be reconciled with the fact that such a nicely executed record is available only in its fragments. To say the truth, details of which shall be demonstrated later, we have got three fragments where a fragment each belongs to a different record. But, as the coincidence would have it, they have all been recovered from one and the same place and their writing style is identical to the extent of being akin to the part of one and the same record. But the fact is that the apparent relationship of these three fragments is not established by

the body of their texts. If at all there is any relationship, it does not go beyond that of being cousins and this is the reason why we address them all as Pratihāra records where, whether they are really Pratihāra is once again marked by the sign of interrogation.

The said fragments of these records (let us call them A, B and C) were recovered from the vicinity of Thakur Baba temple of a place called Sanichara in the tehsil and district of Sultanpur, Uttar Pradesh. Credit for their discovery is due to the young and energetic team of Dr. Rakesh Tewari Director of Archaeology, U.P. After the discovery, the fragments were subsequently brought to his office in Lucknow and it is from here that I could succeed in getting their estampages done. The text of all the three fragments, being edited here possibly for the first time, has been deciphered from the estampages thus prepared. Besides the courtesy of Dr. Rakesh Tewari, my sincere thanks are equally due to Dr. KV Ramesh, Director (Epigraphy), Archaeological Survey of India, Mysore, for his valuable help in deciphering the text of the record and also for his kind consent in allowing me to publish the same here in this journal.

Out of the three fragments (Fig. 1, 2, 3) the general shape and size of the first two is almost identical whereas, the third one is smaller in size and its texture also has undergone more damage than the former ones. The written area thus covered (or better to say, remaining with us) in case of A, is 60 × 12 cms., and that of B, is 58 ×

18 cms. Likewise, the area covered by part C, is 38×12 cms. Part A of the fragment is available with the remainder of three lines of the text with a sufficient margin on the top of line 1 and a marginal space along all other lines of the text. In case of B, though the right side border is the same as that of A, at the top of first line of this piece there is a trace of another line with two-third of its letters broken. Subsequently, line four of this part has also got damaged. But, the worst in this regard is part C, where all the three lines are badly defaced and mutilated. However, as witnessed from the remaining parts of both A and B, it is evident that while complete, these were the two very nicely engraved records. The only phrase of 'likhitā ch-ēyam nānā vikatāksharaiḥ', which is readable with some confidence in case of part C, also bears out the same fact. In resume, we can say that because of the space left on its top, line 1 part A, appears to be the same as it was in its original form. The margin spared on the right hand side of both A and B indicates the fact that the portions which got lost, belong only to the left hand side of these records.

Having once seen the beauty of the late *Siddhamātrikā* or the early Nāgari characters of these records, where the curls of the medial sign for *ō* and the lingering loops for the short and long *i*, add an extra charm to the curvilinear shapes and sizes of its alphabets, it is hard to reconcile with the loss these records have suffered from. Before the eyes of art-historian discover the beauty of this school of Hindu Calligraphy, let me put this on record that our scribes of the inscriptions such as these and many others, were the artists of great merit by their own rights¹. Besides the fact that the maintenance of proper balance, specially the job of spacing, in case of all the letters and the lines of such records was a difficult job, they have achieved this with utmost skill at their command. As a rule, the period of 8th-9th century—the time to which our records belong, was a hey-day in the field of Hindu Calligraphy when the job of engraving a record was lifted to the status of skilled profession of art from that of merely a writing. Generally, a scribe lending his name to a particular record saw to it that its execution was made flawless and there was no jumbling of things together and, such records where lines were not running straight and their letters were all messed up one over the other, were strictly censured like the louzy and jealous behaviour of co-wives (*sapatnī-kālushyā*)².

Apart from artistic beauty—a thing of joy for ever, uniformity of spacing maintained in the execution of

every syllable in the present context of our records, has got an extra advantage of its own. It helps us, even though tentatively, to work out the space-measurement or the supposed length of a line while the record was complete. In order words, once it is known as to how many syllables were there in a given line when it was not broken, the space needed for such a line could be worked out—though only thing needed in such a case is the knowledge of the number of syllables of a given line. Luckily, this demand is met by the metrical composition of our records where the arrangement of given syllables of a metre is almost mathematical in nature. In this way, once we could ascertain the metre used in the composition of the text of a given line and with the help of scanning, the total number of syllables of the same, it becomes easier to make out the original length of that line which also happens as we know, the real length of the stone itself.

In this regard, line 2 of A, out of the two parts of A and B, appears to be ideal that could be used for demonstration here. Needless to say that the language of all our records is classical Sanskrit and their text is composed in different metres.

Coming to line 2 part A, we know from our perusal of the text that the portion which is available to us from the whole body of the text, is a part of Sanskrit metre called *Sragdharā*. Here, out of four *pādas* (or lines) which the metre demands, we have got the full text of its fourth *pāda* and roughly two-third of the third as well. Since the text of fourth *pāda* comes to close after two *dandas* and letter *chha* written in between, followed by the verse number two (Fig. 1) and some margin on the right side, we are almost certain about the culminating point of this line. Likewise, the last phrase of line 1 comes to close by *rājā Śrī Bhō*, which once again happens to be the part of the second *pāda* of the same *Sragdharā*. All this helps us to make out that the missing portion of the text which was included in line 2, is the remaining part of second *pāda* (i.e., after *rājā Śrī Bhō*) on one side and that of third *pāda* (i.e., before *nādivāhitābhūhitāya*) on the other. Now since every *pāda* of a *Sragdharā* is made of 21 syllables each, the number of syllables which were accommodated in the body of line 2, works out to be $17 + 12 + 9 + 21 = 59$, and for the sake of space consideration if we include two *daṇḍas*, letter *chha* and the number two as well, the whole thing could be rounded up as 60 syllables. However, out of these 60 syllables which made the full strength of line 2, our fragment retains nearly 30 of

them which is half of the full strength. This, in other words, leads us to conclude that the fragment we have got in hand, is only half of the original and its another half is yet to be traced out. Since the length of this half is made of 60 cms, it is easy to add further 60 cms. to that and work out the full length of the stone (while it was intact) as that of 1.20 metre.

After considering the shape, size and the equal spacing that is observed in between every syllable in case of part B, what is worked out as a length of part A, appears to hold good for this part as well.

Besides these preliminaries related to all the three fragments, the issue which needs consideration now is that of their own relationship, meaning, whether the text of all the three fragments is inter-related to each other or not.

Although we have given our judgment regarding this issue in the beginning itself, by stating that there seems to be no link with in the texts of all the three fragments, some elaboration is still due in this regard.

Looking at first instance and comparing specially with the text of both part A and B, one is bound to disagree with me, like I did myself. The reason for this rather easy but misleading conclusion is somewhat arithmetical in character. It is arithmetical because the verses of the text in both the parts (A & B) are numbered and once while proceeding from number 2 and crossing over to 3 (where ends the text of A) we come across number 4 in the text of B, an easy conclusion about the establishment of link between the two parts of the text is naturally drawn. But, the fallacy of this conclusion becomes apparent, when we take the job of scanning the metres of these verses and notice the distance that is there in between line three (also verse 3) part A and the working first (though line 2) of B, that is marked by the verse number 4.

Here, first of all, line 1 of B composed in *vaṁśastha metre* and covering two of its *pādas* in the phrase “*yadiyamākarnya viśaṇṇa mānasaiś- chatat-kritam dikkrakarēpi sajjanaiḥ*”, does not agree in its composition with “*rājyē tasya mahō*”, of line 3 part A. Even if we think for a moment that this is a kind of *Upajāti metre*, it is impossible to presume that the two of its *pādas* could be accommodated in the space of less than half a line, whereas, the other two *pādas* needed more than one and a half a line. Talking in the terms of syllables which were to cover this space, the number

comes down to more than 90, whereas, for all the four *pādas* of *Vaṁśastha* 48 syllables are supposed to be just enough.

Thus, we come to realize that not only the metres of the lines 3 of A and 1 of B are different, but their texts also which originally they followed were the two different ones. As regards the relationship of C with either of the two, it is still uncertain. What is certain in this case is that the text of this part always formed the closing section of a record.

Although, we have provided working translation of all the texts incorporating major parts of their contents, there are a few items here which may demand little more elaboration. This is specially in case of A, where, based on reasonable grounds, we have proposed to restore the name of Bhōjadēva from *Bho* (line 1) and that of his capital Mahōdays from *Mahō* (line 3). Unfortunately, the texts of these two lines come to close right after syllable *bhō* in first case and that of *mahō* in the second case and how and in what way the succeeding portions of these two lines might have resumed further, is left only to our guess work.

However, the grounds we have got for the restoration of these two names could be elaborated as under:

1. Considering the period of the record (c. 9th century; determined on the basis of its script) and the region (i.e., north) of its provenance, anyone scrambling for a name of a king beginning with letter *bhō*, would think of no other possibility but that of Bhōjadēva (or Bhōjarāja).
2. That the name Bhōjadēva is a natural supposition in this case, is well supported by the scanning of metre *Sragdharā* of the text that begins with *magana* (i.e., three long syllables) and, is further followed by *ragana*, which ought to have one long, e.g., *Bhō*, one short, i.e. *ja* and further one long syllable like *dē*, for this purpose. It ultimately leads, as we see, to the formation of the name Bhōjadēva. Here, although with the multiplicity of synonyms in Sanskrit language, some other substitute to this name may equally be thought of yet, the one we have selected in the given circumstance, appears to be an appropriate one.
3. As regards second restoration of *Mahōdaya* from *mahō*, it does not appear to be so definite as the former one. The reason being that the metre of its

text (i.e., *rājyē tasya mahō*) cannot be ascertained on firm grounds since, except this much of the text, all its remaining portion is lost. However, if we take the phrase, '*rājyēta – syamahō*' (something like Kalidasa's '*Vedāntēshu yam-āhu*') as the beginning of a *Sārdūlavikrīḍita* (with *magana* i.e., three large and *sagaṇa* i.e., two short and one large syllables), it is possible to restore the phrase somewhat like '*rājyē tasya mahō* *dayēti nagarē*'. And, if this is the case, it refers to the city of

noticed a couple of times earlier as well³. Fleet has rendered the term *vikatakshara* in the sense of "beautiful letters"⁴ and while endorsing the same, I find this as the fittest appellation to the beautiful characters of *Siddhamātrikā* and the early Nagari records⁵.

TEXT (Part – A)

1. *nah* || *Asti kshamā-pāla-mauli-sphurd-upari śirō-ratna-ghṛishṭ-ānghṛ (ri) piṭho* ⁶ *rājā*

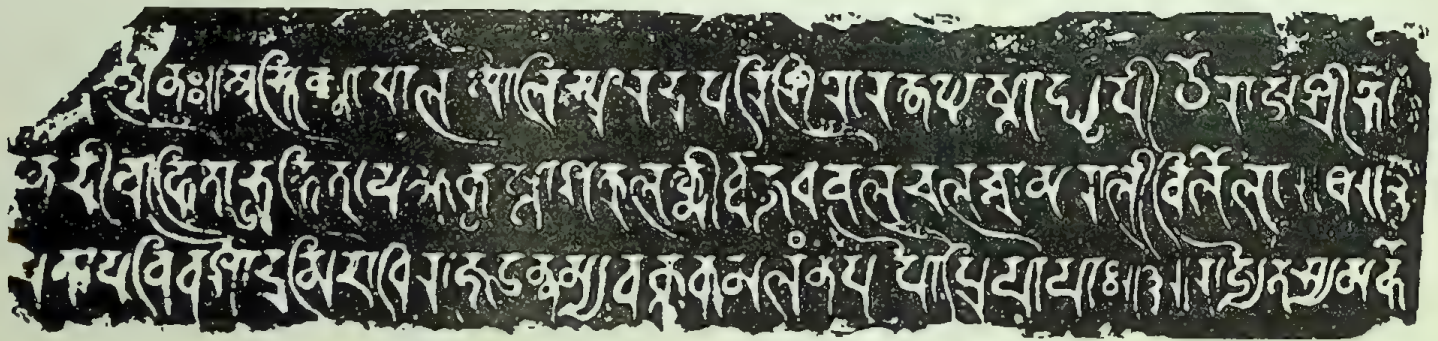


Fig. 1-(Part-A). Pratihara (?) record from Sanichara (Sultanpur), (S.P. Tewari).

Mahodaya which is another name of Kanyakubja or Kanauj. The fact that the capital of Bhoja (possibly 1st and of Pratihara dynasty) was Mahodaya, adds further credibility to this restoration. Now since the script of the text of other two parts (B and C) recovered from the same place, is absolutely identical with that of A, I find no objection (till the time something otherwise comes to our notice) in admitting them also as Pratihara records.

Besides king Bhoja and his capital Mahodaya, another point of some interest in part A, is a vague reference to the king of Dravida (*Dramid-ādhiraja*) whose identity, for want of more information, may not be settled. Possibly, this is a *praśasti*-type statement which ought not be taken seriously as a historical fact.

In case of part B, the only proper name (of unknown identity) is that of Valla (line 3) whose exploits of the childhood are mentioned. Besides, there is a passing reference to goddess Sri and Sarasvati. Whereas, coming to part C, as we have stated earlier, the only legible phrase is that of "*likhitā ch-ēyam nānā vikaṭāksharaih*" i.e., "this has been written by employing good number of *vikaṭāksharas*".

As regards the term *vikatakshara* for writing, it has been

śrī Bhō ⁷

2. [1 *]
..... *nadī vāhitā bhū-hitāya* [1 *] *Ākṛishṭā Śakra- lakshmīr-dhvaja-dhavalā-chālach-chmar-ālī vilōlā* || *chha* || 2⁸.
3. *tāpa-vivaśō Dramid-ādhirāja* [1 *] *Unnamya vaktra-kamalaṁ na papau priyāyāh* || 3 || ⁹ *Rājyē tasya Maho*.....¹⁰

Translation

1. There is a king whose foot-rest is rubbed by the dangling gems of the crowns of kings, by the name Śrī Bhō (*jadēva*).
2.for the welfare of earth (he) crossed over the river, the whiteness of (his) ever-moving chauries steal the glamour of Indira's court.
3.frightened by his might, the king of Drāviḍa, lost his heart and could not embrace his beloved even having raised her lotus-like face¹¹.

TEXT (Part – B)

1. ¹²..... *yadīyam-ākarnnya vishanna-manasais- chatatkritam dikkrakarepi*

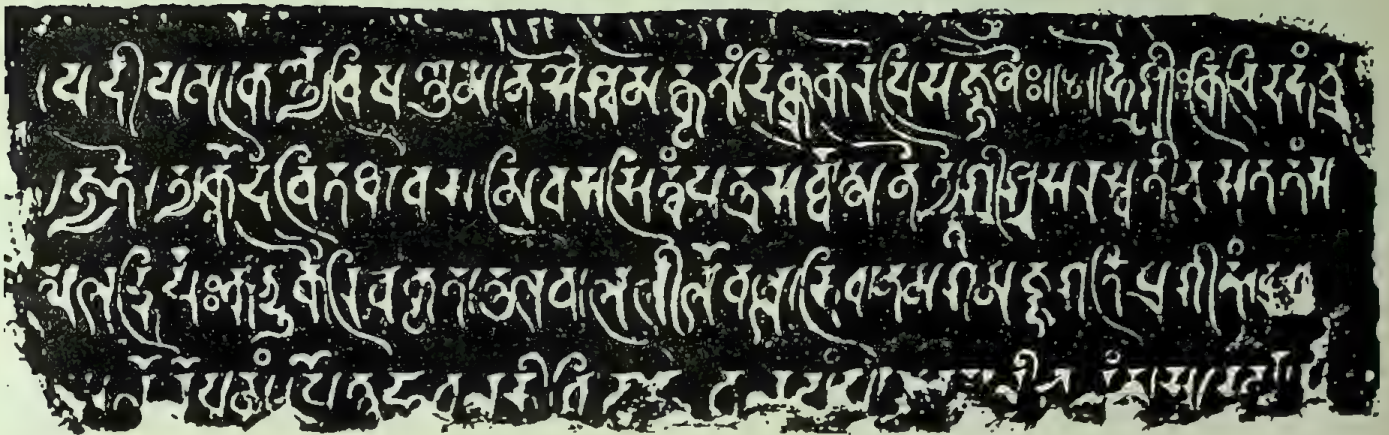


Fig. 2- (Part-B) Pratihara (?) record from Sanichara (Sultanpur) U.P. (S.P. Tewari).

*sajjanaiḥ ||4||¹³ Hē śriḥ ki (kiṁ) chid-aham
[bra].*

2.jyatē 1 tyaktō dēvi tathā vasāmi vasasi
tuam yatra sarvātman-ēty-ēva¹⁴ Śrīś-cha
Sarasvatī cha satatam¹⁵ sa.....
3.tpaladbhir-yah kandukair-iva kṛit-ātula
bāla-līlō Vall-ābhidhānam-agamaj-jagati
pragitam ||6||¹⁶
4. (nothing tangible could be made out).

Translation

1. having heard (this) gentlemen got depressed,
felt wonder-struck and sad. O! goddess Lakshmi

something I [want to say] -

2. Forsaken by you, O! goddess! I am wandering
about every place just like you being omnipotent as
you are, reside everywhere and every place.
3.who played with balls in his childhood and who
(later on) came to be known in the world by his
appellation Valla.

TEXT (Part-C)

1.
2.
3. *likhitā ch-ēyam nānā vikaṭāksharaiḥ*

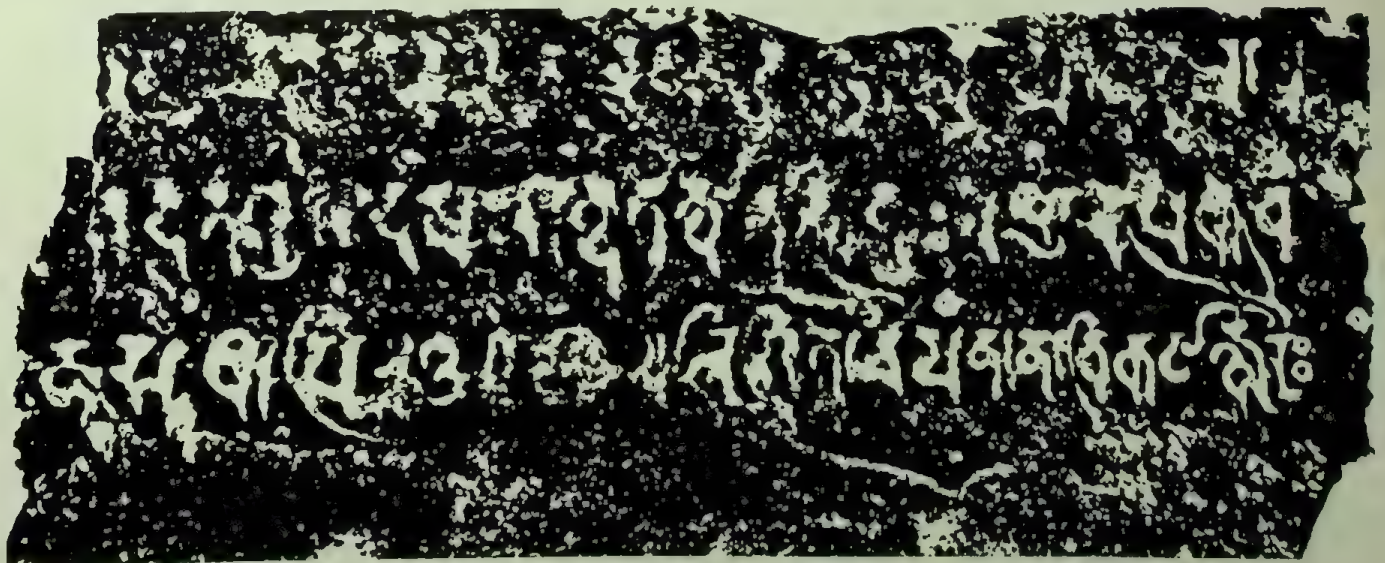


Fig. 3-Part- (B) Pratihara (?) record from Sanichara (Sultanpur), U.P. (S. P. Tewari)

Translation

1.
2.
3.written in beautiful letters.

REFERENCES AND NOTES

1. Wait for the forthcoming work of the present author on the *Hindu Art of Calligraphy* which is in the offing.
2. For 'Sāptnya-kalusha-defect in the art of writing' see my forthcoming paper in B.K. Thapar Fel. Vol.
3. C.I.I. III, p. 205, line 27; *Epigraphia Indica* II p. 121.
4. C.I.I. III, op.cit
5. Regarding various shades of meaning of the term *vikata* and the nuances of *vikaṭāksharā*, see my 'Contributions of Sanskrit Inscriptions to Lexigraphy, Delhi, 1987, pp. 69-73.
6. Metre, *Sragdharā*.
7. Could be restored as Bhōjadeva. For explanation, see my introduction above.
8. Since it was easily possible to suggest the

number of syllables which got lost in case of this verse and also because we have quoted this in our introduction as an example, we have furnished such details here. But from further on, only the existing part of the text is given.

9. Metre, *Vasanta-tilakā*.
10. Restored as Mahōdaya. See the explanation above. The phrase as such appears to be the part of *Śārdūla-vikrīḍita*.
11. If not whole, atleast part of the fancy from this verse, seems to be inspired by Kalidasa's words in *Śākuntalam*:

*Mukham-amśa vivarti pakshmalākshyāḥ,
katham-apy-unnamitaṁ na chumbitaṁ tu.*
(III.78)
12. There are traces of another line on the top of this one but since nothing could be made out of its text I have omitted that from our reckoning here.
13. Metre, *Varṇasāstha*.
14. Letter *va* is written below the line.
15. Metre, *Śārdūlavikrīḍita*.
16. Metre, *Vasanta-tilakā*. Below this line there is another line the text of which could not be deciphered.

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Pre-Gupta Temple Forms

Amar Singh

Scholars like O.C. Gangoli believed that no temples existed prior to the Gupta period¹. But now it is ascertained by archaeological evidence that temples were erected during the pre-Gupta period. According to Krishna Deva, these temples were largely made of timber or other perishable materials². They are now ruined and their superstructures are hardly traceable through excavations. Therefore their architectural features are not known. Coomaraswamy, V.S. Agrawala and U.P. Shah, in their masterly works have shown through illustrations, some of the shrine forms available in the reliefs from Mathura, Bharhut, Sanchi, Amaravati, Ghantasala and Jaggayyapeta dating from about the second century B.C. to the third century AD³. They have also discussed the earliest relevant literary sources available to them. On the basis of numismatic evidence J.N. Banerjea and O.P. Singh have also tried to shed some light on the shrine structures which were known to Indian architects as early as the second-first century BC⁴. Taking these archaeological and literary evidence altogether we have discussed and tried to find out all possible temple forms which were being used to install the images of worship during the pre-Gupta period. For this purpose, the excavated temple sites have also been considered.

There are various references of shrines in early literature. Words like *Yakṣa sadam*, *devāyatanam*, *prāsāda*, *devagrha* and *devasthāna* are used in the vedic texts but it is very difficult for us to ascertain their architectural

forms⁵. The vedic tradition, given wholly to worship through yajnas, had hardly any scope for image and temple⁶. There existed, side by side, another tradition of worshipping many popular folk-divinities like yakṣas, nāgas and mother-goddesses⁷. There is ample literary evidence to show that yakṣa shrines existed in the age of the Buddha and Mahāvīra, i.e., during the sixth and fifth centuries B.C. and it is also said that Mahāvīra used to visit such shrines⁸. According to *Aupapātikasūtra* and the *Rāyapaseṇyasūtra* the yakṣa or the nāga caitya consisted of a slab on a platform placed adjacent to the trunk of a caitya tree⁹.

During the pre-Gupta period (c.2nd century B.C. to 3rd century AD) the popular 'bhakti' cults of yakṣas and nāgas were accepted in other sects also and under the influence and impact of these 'bhakti' cults, various images of personal deities were made and temples were built to enshrine them¹⁰.

Evidence of pre-Gupta shrines have been unearthed during excavations. These are in ruins and have no complete structures to give us a firm idea about their forms. These are being discussed below :-

- (1) A brick-and-timber shrine of the Mauryan period (c.3rd century B.C.) was excavated at Bairat (district Jaipur in Rajasthan). It originally consisted of a small portico supported on two wooden pillars attached to the circular garbhagrha. The portico no longer exists, but the holes for the wooden pillars

give us an idea of this plan. Portico was surrounded by a circumambulatory. The whole structure was enclosed within a rectangular compound¹¹.

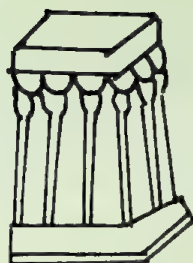
- (2) Another example of a Maurya temple recovered by excavation is at Sanchi and is known as temple No. 40. It is a stone temple with an apsidal plan enclosed by an ambulatory and raised on a high rectangular plinth. The superstructure has unfortunately disappeared¹².
- (3) Temple No. 18 at Sanchi was also an apsidal stone temple probably with a timber superstructure originally dating from the 2nd century B.C.¹³.
- (4) A reference to a shrine of the two gods Samkarṣaṇa and Vāsudeva round which a stone enclosure was built in the 1st century B.C. is known from an inscription found on the wall of a baoli in the village of Ghosundi. The inscription was originally located at Nagari (ancient Madhyamika) in Udaipur district, Rajasthan. During the course of excavations at Nagari Bhandarkar found in the western half of the Hāthibāḍā enclosure, the remains of a brick platform but there was no evidence of any superstructure on it. As suggested by him, the superstructure may have been made of timber or brick¹⁴.
- (5) Another example of a shrine dedicated to Bhagavata (vaisnava) cult, at Besnagar near Sanchi in Central India was elliptical on plan. It was also possibly made of timber¹⁵.
- (6) We have also evidence of shrines, apsidal on plan, discovered during the excavation at Nagarjuna-Konda (district Guntur). They all date from the 2nd-3rd century A.D.¹⁶.
- (7) During the excavations at Sonkh (district Mathura) the remains of an apsidal brick temple (No. 2) were discovered from the Kuṣāṇa level. This temple was dedicated to the Nāga cult and was partly or fully enclosed by a stone-railing with a highly artistic gate. Except for the entrance on the eastern side, the temple was surrounded by pillars on all sides, only the brick foundations of which are preserved. The whole structure was erected on a platform. Remains of roof-tiles were also found beside the wall¹⁷.
- (8) Another apsidal brick temple (No. 1) was excavated from the same mound at Sonkh. Most probably, this temple in its oldest shape existed as

early as the Kusāna period¹⁸.

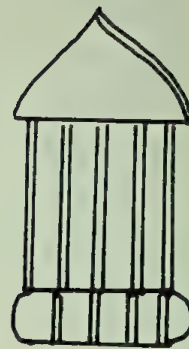
- (9) Two large terraced brick temples were revealed by the excavations at Ahicchatra, near the village of Ramnagar in Bareilly district. Each terrace of the temple with the circumambulatory path around a square structure was composed of cells filled with mud. Both of them underwent restorations and extensions in different periods resulting in increasing dimensions each time. The original temple on the eastern fringe of the fortified area probably belongs to the Nāga period (c.3rd-4th century A.D.) or early Gupta period and was subsequently enlarged later on, while the other may belong to a slightly later period. A gigantic Śivaliṅga is placed over a high terraced structure which indicates that temple was dedicated to the Śaiva cult¹⁹.
- (10) Like the terraced brick temples of Ahicchatra, there is another specimen of terraced brick temple excavated from Pawāyā, near Gwalior in Madhya Pradesh, showing three terraces, of which the upper two are decorated with a continuous row of ornate pilasters surmounted by caitya window dormers²⁰.

Coomaraswamy, V.S. Agrawala and U.P. Shalī have published in their monumental works the following shrine forms from the reliefs of Mathura, Bharhut, Sanchi and Amaravati belonging to the 2nd-1st century B.C.

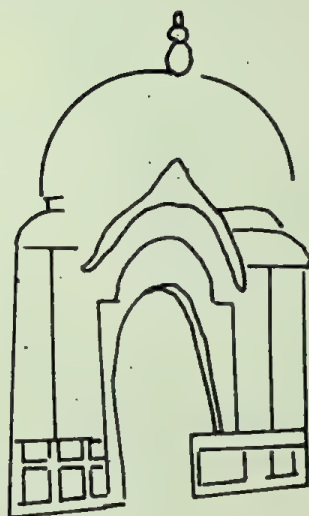
- (1) A relief from Mathura, shows an example of a tree shrine without railing²¹.
- (2) Only a platform below or around a tree and was generally enclosed by a square or circular railing²². The type is represented by a Śaiva shrine with a Śivaliṅga below a tree on a lintel of the early Kuṣāṇa age from Mathura. It has a railing on all sides but no roof²³.
- (3) The Mathura relief presently housed in the Boston Museum Collection represents a sacred tree enclosed by a structure supported by pillars and entered by an arched doorway. According to Coomaraswamy, this is a square 'bodhihara' with heavy corbelled roof²⁴.
- (4) Coomaraswamy has also published a small relief fragment from Amaravati showing a circular caitya, along with a drawing of the restored structures²⁵.
- (5) In another example, from Amaravati, by



1



2



3

Figs. 1, 2, 3. Shrine forms from Audumbar coins 2nd-1st cent. B.C. (after O.P. Singh, *ibid*, fig. 1, 9 and 8).

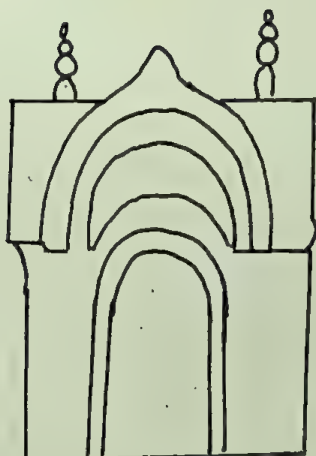
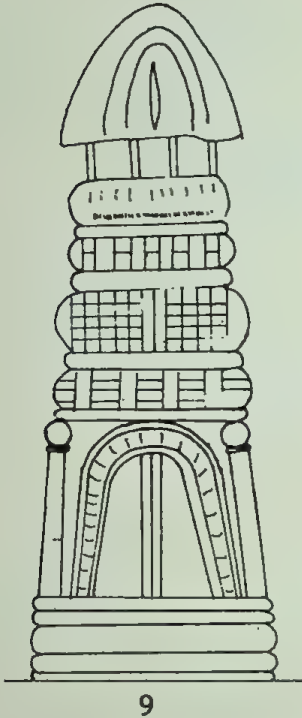


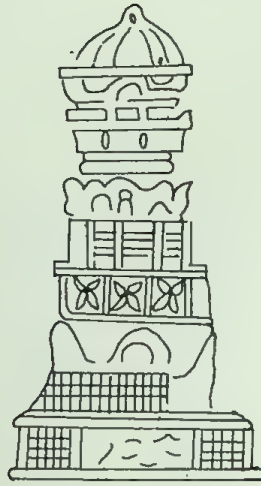
Fig. 4. Gajaprsthakrti from Bharhut, 2nd-1st cent. B.C. (after P.K. Agrawal, *Gupta Temple Architecture*, Varanasi, 1968, fig. 17, p. 9).



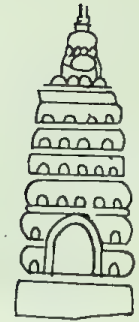
Fig. 5. plan of the apsidal temple no. 2 at Sonkh 1st-2nd cent. A.D. (after Hartel, *ibid*, fig. 40).



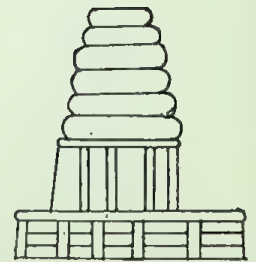
9



6



8



7

Fig. 6. From a Mathura sculpture, c. 100—150 A.D., (after P.K. Agrawal, *ibid*, fig. 22, p. 11). Fig. 7. From a Mathura sculpture c. 100—150 A.D. (after Coomaraswamy, *ibid*, fig. 69). Fig. 8. From Bodhgaya plaque, Patna, early Kusana period (after Coomaraswamy, *ibid*, fig. 62). Fig. 9. From the pedestal of the Aligarh Museum, Image, c. 2nd cent. A.D. (after R.C. Gaur, *JISOA*, pl. XXII, fig. 4).

Coomaraswamy, a circular domed shrine is supported on large pillars and is surrounded by a railing. The dome is decorated with caitya arches²⁶.

- (6) Another two-storeyed shrine but with an ablong roof of the *gajaprsthā* type and dating from about the second or first century B.C., is represented in a relief on a stone slab from Jaggayyapeta. U.P. Shah is of the opinion that this example is a representation of the prototype of the main shrine at Gop in Gujarat²⁷.
- (7) A relief from Bharhut reproduced by Coomaraswamy depicts an apsidal bodhghara with three entrances to a rectangular shrine with a vaulted (*gajaprsthakṛti*) roof on the upper storey, surmounted by a railing over the entrance arches²⁸.
- (8) At Sanchi a relief shows an octagonal plan with a wagon-vaulted roof and three arched doors in front²⁹.
- (9) Another example of a circular shrine with diminishing storeys found on a relief from Ghantasala is a prototype of the *nagara sikhara* and belongs to the second or first century B.C.³⁰.
- (10) Ghantasala type structure is also depicted on a

toraṇa architrave in the Mathura Museum Collection³¹.

- (11) Another very interesting representation of a shrine with a superstructure which is broad at the base and narrower at the upper tiers and is surmounted by a rudimentary *āmalaka* is depicted on the pedestal of a Buddha image of the Kusāna period from Mathura. It is now preserved in the University Museum Aligarh³². According to R.C. Gaur this shrine was probably a representation of the Bodhgaya temple as it appeared in the Kusāna period³³.
- (12) The Bodhisattva image in the Sāranātha Museum, which was originally made at Mathura, was provided full shade by a circular umbrella (*chatra*)³⁴. A unique parasol was also found at Maholi³⁵. Thus, circular or square stone umbrellas supported by one central and other terminal staffs covered the images of the Kusāna period.

The following structures have been observed by scholars on the coirns of Audumbara rulers :

- (1) Plinth with pillars and hemispherical or domed roof with projecting eaves³⁶.
- (2) Plinth with pillars and domed roof with projecting

eaves and small finial or spire³⁷.

- (3) Plinth or platform with pillars which supported keel or vaulted roof arranged into 2 or 3 diminishing tiers; at the top it ends into a small apex³⁸.

According to J.N. Banerjea, some of the above structures on Audumbara coins are unmistakably Saiva shrines, which must have contained images or phallic emblems of Siva³⁹. O.P. Singh has suggested that the

shrine and square plinth ornamented with railing pattern on the Audumbara coins served the purpose of the sanctum, which must have contained images or phallic emblems of Śiva, and in order to project it, square domed roof of diminishing size and arranged into two or three(?) tiers supported by pillars on terraces was made⁴⁰.

A separate chart is being provided to have an evaluation about the temple forms during the pre-Gupta period.

EVALUATION

	Site	Date	Form		Material	References
			Plan	Elevation		
(1)	Bairat (Rajasthan)	c.3rd cent. B.C.	Circular	-	brick-and-timber	11
(2)	Temple No. 40 at Sanchi (Madhya Pradesh)	c.3rd cent. B.C.	apsidal	-	stone	12
(3)	Temple No. 8 at Sanchi (Madhya Pradesh)	c.2nd cent. B.C.	apsidal	-	stone-and-timber	13
(4)	Nagari (Rajasthan)	c.1st cent. B.C.	elliptical	-	brick-and-timber	14
(5)	Besanagar (Madhya Pradesh)	c.1st cent. B.C.	elliptical	-	timber (?)	15
(6)	Nagarjuna Konda (Andhra Pradesh)	c. 2nd-3rd cent. A.D.	apsidal	-	-	16
(7)	Sonkh No. 2 (Uttar Pradesh)	c.1st-2nd cent.	apsidal	-	brick	17
(8)	Sonkh No. 1 (Uttar Pradesh)	c.2nd-3rd cent.	apsidal	-	brick	18
(9)	Ahicchatra (Uttar Pradesh)	c. 3rd-4th cent. A.D.	square	three terraces	brick	19
(10)	Pawaya (Madhya Pradesh)	c.3rd-4th cent. A.D.	square	three terraces	brick	20
(11)	Relief from Mathura	c. 1st cent. A.D. square	Circular or with railing	platform	-	21, 22, 23
(12)	Relief from Mathura now in Boston Museum	c. 1st cent. A.D.	square	corbelled roof supported on pillars	-	24
(13)	Relief from Amaravati (Andhra Pradesh)	c. 2nd-1st cent. B.C.	Circular	domed shrine supported on pillars and surrounded by railing.	-	25, 26
(14)	Relief from Jaggayyapeta	c.2nd-1st cent. B.C.	rectangular or apsidal	Gajaprsthakṛti	-	27

(15) Relief from Bharhut	c.2nd-1st cent. B.C.	apsidal	Gajaprsthakṛti	-	28
(16) Relief from Sanchi	c.2nd-1st cent. B.C.	Octagonal	Gajaprsthakṛti	-	29
(17) Relief from Gantasala & Mathura	c.2nd-1st cent. B.C.	circular	diminishing storeys a prototype of Nāgara sikhara	-	30, 31
(18) Relief from Mathura now in the university museum Aligarh	c.2nd cent. A.D.	square	rudimentary sikhara — a prototype of Bodhagaya Temple	-	32, 33
(19) Bodhisattva image in the Saranatha Museum from Mathura	1st cent. A.D.	-	circular umbrella	stone	34
(20) Maholi near Mathura	1st-2nd cent. A.D.	-	umbrella	stone	35
(21) Audumbara coins	2nd-1st cent. B.C.	circular or square or square or rectangular	plainth with pillars and domed or gajaprsthakṛti roof	-	36, 37, 38 29, 40

CONCLUSION

From the above archaeological and literary evidence we can draw the inference that temple building was common during the pre-Gupta period. Generally, they were made of stone, brick, timber or some perishable material. During this period, many temple forms were experimented upon, such as, circular, square, rectangular, apsidal, elliptical and octagonal. Their superstructures are no longer existant but they are well represented in the reliefs of second and first centuries B.C. and on the Audumbara coins. The available evidence shows that the Yakṣa or the Nāga shrines of the age of Mahāvira consisted of a platform on which an object of worship or a slab was placed. At the second stage a railing of bamboo, wood or stone was also provided around the platform and this tradition was existing even up to the Śunga and Kuṣāṇa periods.

As far as the evolution of 'Śikhara' is concerned it is reasonable to believe that the type had already been evolved and become popular in the Śunga-Kuṣāṇa age as its prototype is represented in the reliefs from Mathura,

Sanchi, Bharhut, Amaravati, Jaggayyapeta, Ghantasala and on the Audumbara coins.

In order to protect an image or an object of worship, a corbelled or domed roof supported on pillars or a multi-storeyed structure arranged in diminishing tiers was constructed, and this acted as proto-type of the Nāgara sikhara above a circular or square plan. A wagon-vaulted (gajaprsthakṛti) roof above an apsidal or rectangular plan was a copy of the caityagṛha and served as a proto-type of the Valabhi sikhara.

As it was an age of experimentation a few other forms were also tried. A circular or square stone parasol supported by one central staff was provided to cover the image. Another form was the terraced type, which probably originated from the Buddhist stupa. Thus, various forms were being tried and experimented upon to evolve and develop the architecture of temples during the pre-Gupta period.

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मऊ क्षेत्र के सन्दर्भ में सोनभद्र जनपद का शिल्प वैभव

राकेश तिवारी
गिरीश चन्द्र सिंह

उत्तर प्रदेश के दक्षिण-पूर्व कोने में स्थित पर्वतीय भू-भाग बघेलखण्ड की उत्तरी सीमा बनाता है। गंगा के दक्षिण का यह क्षेत्र अभी हाल तक मिर्जापुर जनपद में आता था। प्रशासनिक दृष्टि से अब इसे दो भागों में बांट दिया गया है। उत्तरी भाग पूर्ववत् मिर्जापुर और दक्षिणी सोनभद्र कहलाता है। सद्यः सृजित दक्षिणी जनपद का नामकरण, इसके लगभग मध्य में प्रवाहमान, सोनभद्र-नद के नाम पर किया गया है। यह जनपद पूर्व में बिहार और दक्षिण व दक्षिण पश्चिम में मध्य प्रदेश की सीमाओं से घिरा है।

जनपद मुख्यालय राबर्ट्सगंज सड़क के रास्ते वाराणसी, मिर्जापुर और इलाहाबाद से जुड़ा हुआ है। इलाहाबाद से मिर्जापुर और चुनार होकर डाल्टनगंज और उससे आगे जाने वाली रेलें राबर्ट्सगंज से होकर गुजरती हैं। इस नये मुख्यालय में आवास की स्वाभाविक समस्या है किन्तु किसी हद तक यह कमी सार्वजनिक निर्माण विभाग, वन विभाग और सिंचाई विभाग के विश्राम गृहों से पूरी हो जाती है।

सोनभद्र नद के उत्तर में बलुआ पत्थर के बाहुल्यवाली कैमूर की ऊँची पर्वत श्रृंखला और दक्षिण में अपेक्षाकृत कम पत्थरों वाली पहाड़ियों का विस्तार है। कैमूर श्रृंखला पश्चिम में मध्य प्रदेश की सीमा से पूर्व में बिहार की सीमा तक नद के प्रवाह के साथ-साथ चली गयी है। उत्तर की ओर यह पर्वत पठार जैसा है। इस क्षेत्र की प्रमुख नदी बेलन, कर्मनासा और अन्य अनेक धारायें जगह-जगह मोहक प्रपात बनाती हैं। रिहन्द, कनहर, बीजुल आदि सोन की दक्षिणी सहायिकाएँ हैं।

लगभग १०० वर्ष पूर्व तक यह सम्पूर्ण क्षेत्र घने वनों से आच्छादित और वन्य जीवों के लिए विख्यात रहा है, किन्तु अब यहाँ स्थित राबर्ट्सगंज, पन्नगंज, चुर्क, शाहगंज, घोरावल, राजगढ़, मडिहान आदि स्थल उत्तरोत्तर विकास की ओर उन्मुख हैं। चुर्क, सलखन, डाला, ओबरा और रेनूकूट औद्योगिक केन्द्रों के रूप में विकसित हो चुके हैं। इन स्थलों के आस-पास नाम मात्र को ही वनस्पतियाँ बची रह गयी हैं। यद्यपि अन्य भागों में भी व्यापक वन-कटाव हुआ है, फिर भी, सोन के आस-पास और सड़कों से दूर

बडैला-खोडैला, विजयगढ़, और कैमूर अभयारण्य जैसे क्षेत्रों के वन अपने पूर्व स्वरूप का आभास कराते हैं। तेंदुए, भालू, बराह, हिरन और नीलगाय जैसे वन्य जीव अभी भी यहाँ जब तब देखे जा सकते हैं। वनस्पतियों में खैर, सलई, पलास, करम, बैर, बहरी, चिरौजी आदि उल्लेखनीय हैं।

पूर्वोल्लिखित प्रमुख स्थलों और उनके निकटवर्ती ग्रामों में आशिक रूप से और वन्य क्षेत्रों में बहुतायत में रहने वाले आदिवासियों में खरवार, कोल, बैगा, गोंड, पनिका और अगरिया आदि प्रमुख हैं। पूर्व परम्परा के अनुसार सीमित खेती के साथ पशु-पालन एवं वन्य उपज व जीव इनके जीवन के मुख्य आधार हैं। नवीन निर्माण कार्यों और उद्योगों में ये प्रायः मजदूरी का कार्य करते हैं। विकसित स्थलों में आस-पास के अपेक्षाकृत समतल क्षेत्रों में आदिवासियों से इतर जातियों की बहुतायत है। इस क्षेत्र की उपजाऊ भूमि का उपयोग खेती के लिए किया जा रहा है। दूरस्थ क्षेत्रों के लोग धीरे-धीरे यहाँ बसते जा रहे हैं।

उपलब्ध साक्ष्यों के अनुसार इस जनपद में पाषाण काल से ही मानव निर्बाध रूप से रहता रहा है। 'हैण्डऐक्स', 'क्लीवर', 'फ्लेक', 'स्क्रैपर', 'ब्लेड' और लघु पाषाण उपकरणों की प्राप्ति इस ओर सुनिश्चित रूप से इंगित करती है। ऐसा लगता है कि बहुत समय तक इस क्षेत्र में आदिवासियों का प्रभुत्व रहा। इनमें खरवारों का नाम विशेष रूप से लिया जा सकता है। गुप्त काल से यहाँ बाह्य गतिविधियों के छिटपुट प्रमाण मिलने लगते हैं। पूर्व मध्यकाल में विजयगढ़-अगोरी क्षेत्र पर खरवार राजा शासन कर रहे थे। लगभग 12वीं शताब्दी में क्रमशः चन्देलों ने इन क्षेत्रों पर अधिकार करना प्रारम्भ किया, किन्तु स्थानीय आदिवासी राजाओं से इनकी प्रतिद्वन्द्विता चलती रही। कालान्तर में यह पूरा भू-भाग बनारस के अधीन होकर मुस्लिम और फिर कम्पनी शासन के अन्तर्गत आ गया।

आदिवासियों और बाहर से आकर बसने वालों का मिलन-क्षेत्र होने के कारण दोनों संस्कृतियों के पारस्परिक आदान-प्रदान की प्रक्रिया और उससे उद्भूत तत्वों को समझने के लिए यह आदर्श स्थल है। इस विषय में रुचि लेने वाले अध्येताओं ने उन्नीसवीं शती के उत्तरार्द्ध से ही इसका

अवगाहन प्रारम्भ किया। जे० कॉकबर्न का नाम इनमें सबसे पहले आता है। लगभग 1883 से प्रारम्भ हुई उनकी खोज-यात्रा के परिणाम स्वरूप सोनभद्र जिले के चित्रित शैलाश्रय और प्रागैतिहासिक स्थल प्रकाश में आने लगे। कालान्तर में राय साहब मनोरंजन घोष (1932)², कृष्णास्वामी एवं सौन्दरराजन (1949)³ आदि, तथा इलाहाबाद (1955-56 एवं उसके बाद)⁴ और चाशी हिन्दू विश्वविद्यालय (1962-63⁵ एवं उसके बाद) तथा केन्द्र व राज्य के पुरातत्व विभागों⁶ के सर्वेक्षकों के सतत् प्रयासों से इस क्षेत्र में प्रारम्भ से अब तक मानव गतिविधियों के साक्ष्य/स्थल बड़ी मात्रा में ज्ञात हो चुके हैं।

सोनभद्र जनपद के प्रस्तरयुगीन पुरावशेषों तथा विशेषतः शैलचित्रों के विषय में बहुसंख्यक प्रकाशन भी हुए हैं⁷, जिसके कारण यह क्षेत्र विशेष रूप से प्रागैतिहासिक पुरासम्पदा के लिए जाना जाता है। किन्तु यहां की प्रभूत शिल्प-कला के विषय में यदा-कदा ही कुछ चर्चा हो सकी है। इस दृष्टि से सोन के निकटवर्ती और विशेषरूप से उत्तरी भाग महत्वपूर्ण हैं। गत वर्षों में उ० प्र० राज्य पुरातत्व संगठन द्वारा इस क्षेत्र में कराये गये पुरातात्विक सर्वेक्षणों से प्राचीन देवाल्यों और प्रस्तर-प्रतिमाओं के अवशेषों के रूप में अनुपम कलानिधि प्रकाश में आयी है। इनमें भरहरी और मड़रा के मंदिर, कुड़ारी की योगिनी मूर्तियां तथा शिवद्वार क्षेत्र के राम-कृष्ण कथानक-फलक उल्लेखनीय हैं (चित्र सं० 1, 2, 3, 4, 5, 6)। शिल्पकला के अध्ययन और उसके नये आयामों को उजागर करने के लिए यह अद्भुत स्रोत-सामग्री है। प्रस्तुत लेख में मऊ क्षेत्र के प्राचीन शिल्प के अवशेषों के विवरण के माध्यम से इस क्षेत्र की शिल्प कला की एक झांकी इस उद्देश्य से प्रस्तुत की जा रही है कि कलाविदों की निगाह इनकी ओर जाये और वे इनका मूल्यांकन कर इस संदर्भ में जनपद सोनभद्र के योगदान को रेखांकित कर सकें।

II

सोनभद्र जनपद की राबर्ट्सगंज तहसील में राबर्ट्सगंज के निकट स्थित चुरक से लगभग 11 कि० मी० की दूरी पर मऊ ग्राम स्थित है। इस गांव के आस-पास महत्वपूर्ण पुरासामग्री बिखरी हुई है। विजयगढ़ दुर्ग, घोड़मंगर, रमना पहाड़ और धंधरौल के चित्रित-शैलाश्रय इसके आस-पास स्थित हैं। गांव में वन विभाग की चौकी के सामने निर्मित आधुनिक शिव मंदिर के अन्दर व बाहर, रमना पहाड़ के आस-पास और धंधरौल बन्धे के पास 7वीं से 10वीं शती ई० तक की अनेक प्रस्तर-प्रतिमाएं एवं वास्तु-खण्ड पाये गये हैं। इनका विवरण निम्नवत् है:-

शिव मंदिर के गर्भगृह में स्थापित एकमुखलिंग एवं आस-पास बिखरे वास्तु खण्डों से स्पष्ट है कि इस स्थान पर कम से कम एक प्रस्तर निर्मित विशाल शिवालय रहा होगा। मुखलिंग का पूरा भाग 67 से० मी० ऊंचा है। इस पर निरूपित शिव का सौम्य मुख 43×47 से० मी० माप का है (चित्र सं० 7)। मस्तक पर जटाजूट, गले में एकावली और ललाट पर ऊर्ध्वाकार त्रिनेत्र शोभायमान हैं। जटाजूट, लम्बे कान और मुख की बनावट गुप्तयुगीन परम्परा के अनुरूप हैं। ऊपर से अण्डाकार लिंग पर निरूपित शिव-मुख का आकार अपेक्षाकृत छोटा है। शैलीगत आधार पर इसे 7वीं शती ई० में रखा जा सकता है।

गर्भगृह की भीतरी दीवार की रथिका में स्थापित 44×4 से० मी० माप के प्रस्तर-खण्ड पर गंगा एवं उनकी परिचारिकाओं का निरूपण किया गया है। त्रिभंग मुद्रा में मकर पर आरूढ़ गंगा के दोनों हाथों में माला प्रदर्शित है। वे कुण्डल, एकावली आदि आभूषणों से सुसज्जित हैं। उनके पाश्वर्यों में चंद्र धारिणी परिचारिकाएं दर्शायी गयी हैं। निचले पाश्वर्य में छत्र संभाले हुए

वामनक विराजमान है। फलक के ऊपरी बायें पाश्वर्य में उड़ते हुए मांगल्य-विहग दर्शाये गये हैं। सामान्यतः गंगा के हाथ में कलश अथवा पद्म प्रदर्शित किये जाने के साक्ष्य मिलते हैं, किन्तु विचाराधीन प्रतिमा में गंगा के दोनों हाथों में माला का प्रदर्शन उल्लेखनीय है।

शिव-मंदिर के सामने के चबूतरे पर शिव के वाहन नन्दी वृष की कई छोटी-बड़ी प्रतिमाएं स्थापित हैं। इनमें से 40×54 से० मी० माप की प्रतिमा विशेष रूप से उल्लेखनीय है। इसमें उमा-महेश को नन्दी पर सवार दर्शाया गया है। इनके अधिकांश भाग भग्न हो चुके हैं। इस प्रतिमा की विशेषता यह है कि अवशिष्ट भाग के बायें पाश्वर्य में बाल-कार्तिकेय और दायें पाश्वर्य में बाल-गणेश क्रमशः उमा व महेश की अंगुली पकड़कर नन्दी पर चढ़ने का यत्न कर रहे हैं (चित्र सं० 9, 10)। इसी प्रकार की एक प्रतिमा शिवद्वार क्षेत्र से भी प्रकाश में आयी है।

मंदिर के बाहर चबूतरे के उत्तर-पूर्वी कोने पर एक प्रस्तर-खण्ड के शीर्ष पर एक भग्न पंचायतन देव-पट्ट स्थापित है। इसके चारों ओर क्रमशः सूर्य, विष्णु, देवी और गणेश की प्रतिमाएं निरूपित हैं। ऊपरी भाग भग्न हो चुका है (चित्र सं० 12)।

सूर्य की मूर्ति 44×31.5 से० मी० की है (चित्र सं० 13)। किरिटी मुकुट, कुण्डल, एकावली और कंकण से सुसज्जित सूर्य उदीच्य वेश में दर्शाये गये हैं। दोनों हाथों में पद्म धारण किये देवता की घुंघराली अलकें मुकुट के बीच से कन्धों तक छितरा रही हैं। उनकी बाहों पर लहराता हुआ उत्तरीय और बायें हाथ के नीचे कटि से बंधी कटार प्रदर्शित है। जंघा भाग से नीचे का भाग भग्न हो चुका है।

40×45 से० मी० माप की विष्णु की स्थानक प्रतिमा के दोनों हाथ कुहनी के नीचे से भग्न हो चुके हैं (चित्र सं० 14)। वे किरिटी-मुकुट, कुण्डल, एकावली, बाजूबन्ध व धोती से विभूषित हैं। केशराशि कन्धों पर बिखरी है। जंघा भाग से नीचे का भाग भग्न एवं अनुपलब्ध है।

38×46 से० मी० माप की मातृका प्रतिमा (चित्र सं० 15) में ललितासन में विराजमान अम्बिका मुकुट, कुण्डल, एकावली, माला आदि आभूषणों से अलंकृत हैं। उनके बायें अंक में एक शिशु दर्शाया गया है। दायें हाथ में डंठलदार दो फल (अनार अथवा अमरूद?) अवलोकनीय हैं। नीचे के भाग में कदाचित् उनका वाहन सिंह और नमस्कार मुद्रा में हाथ जोड़े हुए एक उपासक निरूपित है। उससे नीचे का भाग भग्न हो चुका है।

39×40 से० मी० माप की प्रतिमा में प्रदर्शित द्विभुज गणपति अपने पारम्परिक लक्षणों गजबदन, एकदन्त, सूर्यकर्ण, वामावर्त सृंड, सर्प-यज्ञोपवीत और लम्बोदर युक्त हैं (चित्र सं० 16)। मस्तक पर बाल-पट्ट शोभित है। बायें हाथ में मोदक-पात्र लिए वे सुखासन में विराजमान हैं। संयोग से यह प्रतिमा पूर्णतः सुरक्षित है।

इस पट्ट के ऊपर कदाचित् शिव की प्रतिमा अथवा शिवलिंग रहा होगा जो भग्न हो जाने के कारण अब उपलब्ध नहीं है।

शिव-मंदिर के निकट ही एक शुकनास का खण्डित अवशेष उपलब्ध है (चित्र सं० 11)। इस पर उत्कीर्ण चन्द्रशाला गढ़न को सुन्दर मनकावली से सज्जित किया गया है। इसके मध्य भाग में प्रदर्शित शैव-मुख की भाव-भंगिमा अवलोकनीय है। आंखें आधी मुंदी हुई हैं। खुले मुंह से दिखते दांत क्रूरता और भय दर्शाते हैं। ललाट के ऊपर कुंचित केश की एक पंक्ति

दिखती है, जिसके ऊपर का मस्तक का भाग भग्न हो गया है। वलयाकार कूर्च का अंकन भी दृष्टव्य है।

शैलीगत आधार पर उपर्युक्त प्रतिमाएं लगभग 7वीं शती ई० में निर्मित प्रतीत होती हैं। इसी काल की कुछ प्रतिमाएं धंधरौल बन्ध के पास खेतों में भी पड़ी हुई हैं। इनमें अर्द्धनारीश्वर, सिंह बाहिनी दुर्गा (?) और जैन तीर्थंकर की खण्डित प्रतिमाएं विशेष रूप से उल्लेखनीय हैं।

अर्द्ध नारीश्वर की प्रतिमा एक प्रस्तर-स्तम्भ के अधोभाग पर उत्कीर्ण है। इसकी ऊंचाई 36 से० मी० और चौड़ाई 26 से० मी० है (चित्र सं० 17)। इसमें ललितासन में विराजमान चतुर्भुज देवता का दायां अर्द्धांश पुरुष और बायां स्त्री रूप में दर्शाया गया है। दायें हाथों में क्रमशः अक्षमाला व त्रिशूल शोभित है। एक बायें हाथ में दर्पण दर्शाया गया है और दूसरा बायां हाथ बायें घुटने पर आधारित है। मस्तक के दायें अर्द्धांश में जटाजूट और बायें अर्द्धांश में अलकावली शोभायमान है। दायें भाग में जैघिका और बायीं ओर धोती, बायीं ओर नितम्ब व करधनी तथा दायीं ओर ऊर्ध्व लिंग अवलोकनीय है। दायें पार्श्व में स्कन्ध पर सर्प दर्शाया गया है। नीचे उनका वाहन नन्दी विराजमान है। अर्द्धनारीश्वर की अनेक प्रतिमाएं विभिन्न स्थलों से ज्ञात हैं किन्तु आसनस्थ अर्द्धनारीश्वर की प्रतिमा की प्राप्ति दुर्लभ है।

39×28 से० मी० माप की सिंह बाहिनी दुर्गा की प्रतिमा में चतुर्भुजी देवी सिंह पर ललितासन मुद्रा में विराजमान हैं। अभय मुद्रा में उठे उनके दायें हाथ में अक्षमाला शोभित है। अन्य हाथों में क्रमशः त्रिशूल, दर्पण और पात्र प्रदर्शित हैं। वे मुकुट, कुण्डल, एकावली, उदरबन्ध एवं साड़ी आदि वस्त्राभूषणों से सुसज्जित हैं।

काले बलुए पत्थर पर निरूपित एक जैन तीर्थंकर की 1.42×0.84 मीटर माप की प्रतिमा अनेक विशेषताओं के कारण सोनभद्र जनपद के वास्तु अवशेषों में अत्यन्त महत्वपूर्ण कलाकृति सिद्ध हुई है (चित्र सं० 18)। इसका मुख भाग ऊर्ध्वाकार रूप में भग्न तथा दोनों हाथ और कन्धे से कटि तक के भाग खण्डित हैं। उभय पार्श्वों में निरूपित यक्षों के पैर के पंजों से ऊपर के भाग पूर्णतः भग्न हो चुके हैं। पद्मासन में विराजमान तीर्थंकर के आसन के नीचे की पट्टिका पर दो पंक्तियों का एक लेख उत्कीर्ण है। उसके नीचे मध्य में वामनक के मस्तक पर एक चक्र दर्शाया गया है, जिसके दोनों पार्श्वों में कलश और सिंह अंकित हैं। चक्र और सिंह के लांछन प्रतिमा विज्ञान के अनुसार जैन तीर्थंकर महावीर के होते हैं, किन्तु इस प्रतिमा पर उत्कीर्ण अभिलेख में तीर्थंकर को स्पष्ट रूप से शान्तिनाथ उल्लिखित किया गया है।⁸

ज्ञातव्य है कि शान्तिनाथ का लांछन शिल्प-शास्त्रों में मृग बताया गया है। इस प्रकार विचाराधीन प्रतिमा में परम्परागत लांछनों का अनुकरण न किया जाना विचारणीय है। अभिलेख की लिपि 7वीं शती ई० की उत्तरी ब्राह्मी मानी गयी है। इसकी भाषा संस्कृत है। तदनुसार राजा श्री नागेन्द्र वर्मा के शासनकाल में मुनि संजीव नन्दी द्वारा इस प्रतिमा का निर्माण कराया गया।⁹

रोहित गिरि के पाद-पीठ में सद्वारी पथक में स्थित भन्वत्तिका ग्राम के निवासी सीता सूत्रधार दमेक द्वारा इस मूर्ति के शिल्पांकन का वर्णन विशेष रूप से उल्लेखनीय है।¹⁰ रोहित गिरि की पहचान रोहतास पर्वत (आधुनिक कैमूर पर्वत श्रेणी) और सद्वारी पथक की पहचान शिवद्वार क्षेत्र के सतद्वारी अथवा शतद्वारी स्थल से की जा सकती है।¹¹ उपर्युक्त विशेषताओं के अतिरिक्त यह प्रतिमा सुगढ़ एवं संतुलित देहयष्टि तथा वामनक, चक्र, कलश और सिंहों के उत्कृष्ट व कलात्मक अंकन की दृष्टि से

भी अवलोकनीय है।

प्रश्नगत संदर्भ में विजयगढ़ दुर्ग में उपलब्ध 7वीं शती ई० के वास्तु-अवशेषों की चर्चा भी समीचीन होगी। दुर्ग के अन्दर स्थित 'मीर सागर तालाब' के पास बनी मजार तथा समीपस्थ द्वार के आस-पास एक प्राचीन मंदिर के स्तम्भ पड़े हुए हैं। कुछ वास्तु-अवशेष प्रवेश-द्वार के पार्श्वों एवं दुर्ग की प्राचीर में यत्र-तत्र जुड़े हुए भी दिखते हैं।

इनके आधार पर ऐसा लगता है कि यहां विभिन्न कालों में मंदिर बनाये जाते रहे जो कालान्तर में किन्हीं कारणों में भग्न हो गये। दुर्ग के मध्य में स्थित 'राम सागर तालाब' के पास उपलब्ध इनमें से एक मंदिर के शिखर-आमलक के अवशिष्ट भाग से मंदिर की भव्यता का अनुमान लगाया जा सकता है। इसकी माप के अनुसार पूर्ण आमलक का व्यास 2.50 मीटर रहा होगा। 'मीर सागर तालाब' के निकट रखे अलंकृत स्तम्भों पर हंस, कीर्तिमुख और व्याल अभिप्रायों के जीवत अंकन से मंदिर के उत्कृष्ट शिल्प का अनुमान लगाना सहज है (चित्र सं० 19, 20, 22)। अत्यधिक क्रोधवशा अपने ही शरीर को खा जाने की कीर्तिमुख की पौराणिक कथा के अनुरूप इनमें से एक मुख का अपने हाथों की अंगुलियों को चबाने का निरूपण अवलोकनीय है।

सातवीं शताब्दी में इस स्थान को जो धार्मिक महत्ता प्राप्त हुई वह अगली कई शताब्दियों तक निर्बाध गति से चलती रही। ऐसा लगता है कि थोड़ी-थोड़ी समयावधि पर श्रद्धालुओं द्वारा नयी-नयी प्रतिमाएं बनवाकर यहां स्थापित करायी जाती रहीं और कदाचित् मंदिर भी बनवाए गये। इस प्रक्रिया का आभास विभिन्न कालों में निर्मित यहां उपलब्ध प्रस्तर-निर्मित शिल्प-खण्डों से मिलता है। इनमें से पहले कलावधि की कृतियों में एक लघु मंदिर, एक सहस्रलिंग तथा तीन जैन-तीर्थंकर की प्रतिमाएं सम्मिलित हैं। इन्हें शैलीगत आधार पर लगभग 9वीं शती ई० में रखा जा सकता है।

नागर शैली के लघु मंदिर के जंघा भाग से नीचे का भाग भूमि में दबा हुआ है (चित्र सं० 23)। इसके त्रिरथ जंघा के भद्र-भाग में निरूपित प्रतिमाएं भग्न होने के कारण स्पष्ट नहीं रह गयी हैं। त्रिरथ शिखर के कर्ण-भाग पांच-पांच भूमि-आमलकों द्वारा छः भूमियों में विभक्त किये गये हैं। सम्पूर्ण शिखर लघु चन्द्र-शालाओं से सुसज्जित है। शीर्ष भाग उपलब्ध नहीं है।

सहस्रलिंग का अधो अथवा ब्रह्म-भाग अष्ट-कोणीय है (चित्र सं० 8)। इसके ऊपर के विष्णु अथवा मध्य-भाग पर क्रमशः ऊपर की ओर दस पंक्तियों में छोटे-छोटे लिंग दर्शाये गये हैं। रुद्र अथवा शीर्ष भाग ऊपर से अण्डाकार है। इस क्षेत्र में ऐसे लिंग कम मिलते हैं।

गांव में स्थित वन विभाग की चौकी के सामने रमना पहाड़ पर पड़ी 'कुंवर देव' के नाम से पूजी जा रही जैन तीर्थंकर की प्रस्तर-प्रतिमा 1.28 मीटर ऊंची और 69 से० मी० चौड़ी है (चित्र सं० 21)। इनमें योगासन में विराजमान तीर्थंकर के दोनों हाथ योग-मुद्रा में दर्शाये गये हैं। सिर पर कुंचित केश शोभित हैं। कान लम्बे और नेत्र निमीलित हैं। मुख का भाव सौम्य और ध्यान-मग्न दिखता है। कन्धों के पार्श्व में यक्ष और ऊपरी पार्श्वों में मालाधर प्रदर्शित हैं। मस्तक के ऊपर छत्रवत् अंकित वृक्ष और चरण-चौकी पर उभय पार्श्वों में सिंह एवं मध्य में चक्र अंकित हैं। सिंहों के लांछन के अनुसार इस प्रतिमा की पहचान महावीर से की जा सकती है।

अन्य दो तीर्थंकर-प्रतिमाएं बुरी तरह से भग्न हो चुकी हैं। इनमें भी तीर्थंकरों को आसनस्थ दर्शाया गया है। किन्तु लांछनों के अस्पष्ट एवं विरूपित होने के कारण इनकी सुनिश्चित पहचान करना कठिन है।

रमना पहाड़ के निकट ही पड़ी 'ओढ़री-ओढ़रा' के नाम से लोकप्रिय विष्णु की एक आदम-कद प्रस्तर-प्रतिमा लगभग 10वीं शती की प्रतीत होती है। 2.67 मी० ऊँची और 0.88 मी० चौड़ी इस प्रतिमा में चतुर्भुज स्थानक विष्णु को किरिट मुकुट, कण्डल, कण्ठहार, बाजूबन्ध और कंकण आदि से अलंकृत दर्शाया गया है। उनके दोनों ऊपरी हाथ भग्न हो चुके हैं। पिछला दायाँ हाथ दायें पार्श्व में प्रदर्शित गदा देवी और बायाँ हाथ बायें पार्श्व में निरूपित चक्र पुरुष पर आधारित है। प्रतिमा का घुटने से नीचे का भाग खण्डित किन्तु यथास्थान सुरक्षित है।

लगभग 10वीं शती में ही निर्मित एक चतुर्भुज स्थानक विष्णु की प्रतिमा वन विभाग की चौकी के पास भी रखी है (चित्र सं० 24)। 49×35 से० मी० माप की इस प्रतिमा के शिल्प में कड़ापन दिखता है। अंगों का गढ़न अनुपातिक एवं सुगठित नहीं है। मुख भाग और अगला बायाँ हाथ और बायें पैर का ब्याँ पंजा भग्न हो चुके हैं। विष्णु को किरिट मुकुट, कण्ठहार, बाजूबन्ध, कंकण, यज्ञोपवीत, उदरबन्ध आदि से सज्जित दर्शाया गया है। मस्तक के पीछे पद्म-प्रभामण्डल और निचले पार्श्वों में परिचारक दर्शाये गये हैं। अगला दायाँ हाथ वरद मुद्रा में है। अन्य हाथों में गदा, चक्र और अस्पष्ट वस्तु (शंख?) प्रदर्शित है। त्रिरथ चरण चौकी सादी है।

धंधरौल बन्धे के निकट पड़ी हुई मूर्तियों में एक प्रस्तर-खण्ड पर निरूपित जैन तीर्थंकर की प्रतिमा भी लगभग 10वीं शती ई० में निर्मित प्रतीत होती है। इसमें ध्यान मुद्रा में आसनस्थ तीर्थंकर की पहचान लांछनों के अभाव में स्पष्ट नहीं है (चित्र सं० 25)।

वन विभाग की चौकी के पास, लघु मंदिर के सामने, पड़े हुए एक एकमुख लिंग की गढ़न अवलोकनीय है (चित्र सं० 26)। इसका निचला भाग भग्न हो चुका है। चिप्पड़ निकल जाने और प्राकृतिक कारणों से भी यह काफी विरूपित हो गया है। जटाजूट, ऊर्ध्वाकार नेत्र, आँखों और ओंठ की बनावट गुप्तकालीन परम्परा की झलक देती है, जबकि चेहरे की बनावट बाद की शिल्प शैली के अनुरूप है। ऐसा लगता है कि प्राचीन एकमुख लिंग को कालान्तर में पुनः गढ़कर नया रूप देने का यत्न किया गया है।

उपर्युक्त प्रतिमाओं के अतिरिक्त प्रस्तर निर्मित अनेक भग्न प्रतिमाओं और प्राचीन मंदिर के वास्तु-खण्ड भी आस-पास बिखरे हुए हैं। जिनमें शैव, वैष्णव और जैन प्रतिमाओं के अंश पहचाने जा सकते हैं। कुछ प्रतिमाएं गांव वालों द्वारा अन्यत्र भी ले जायी गयी बतायी गयी हैं।

III

स्पष्टतः सोनभद्र जनपद के विचाराधीन क्षेत्र में लगभग 7वीं शती ई० से उन्नत शिल्पकला मिलने लगती है। तदुपरान्त मध्यकाल तक इसके भिन्न-भिन्न स्वरूप पुष्पित पल्लवित होते रहे। उपलब्ध साक्ष्यों से यह भी ज्ञात होता है कि प्रश्नगत क्षेत्र कदाचित् सातवीं शताब्दी में नागेन्द्र वर्मा नामक राजा के अधीन रहा होगा। संभवतः यह क्षेत्र सद्वारी पथक तथा कैमूर पर्वत रोहित गिरि कहलाते थे। इस क्षेत्र में शैव, वैष्णव और जैन धर्मों के अनुयायी साथ-साथ रहते थे। इनसे सम्बन्धित देवी-देवताओं और तीर्थंकरों की प्रतिमाएं तथा मंदिर समय-समय पर प्रतिस्थापित किये जाते रहे। मूर्तियों को बनाने वाले उत्कृष्ट कलाकार इस क्षेत्र के भी थे जिनमें से एक 'दमेक' का नाम मऊ ग्राम की शार्तिनाथ की अभिलिखित प्रतिमा के लेख में पाया गया है।

उपर्युक्त तथ्यों की जानकारी के साथ कई ऐसे प्रश्न उभरते हैं जिनके उत्तर भविष्य के शोध कार्यों द्वारा दिये जाने की आवश्यकता होगी। यथा-मूर्तियों, मंदिरों के निर्माण के लिए प्रयुक्त प्रस्तर का स्रोत स्थानीय था अथवा

अन्यत्र कहीं? मूर्ति बनाने की कार्यशालाएं कहाँ रही होंगी? इन्हें गढ़कर इस क्षेत्र में लाया गया अथवा यहीं निर्मित किया गया? इन कलाकृतियों पर प्रतिहार, कलचुरि, चन्देल, पाल आदि और स्थानीय कला के क्या प्रभाव पड़े? समीपवर्ती कला केन्द्रों-वाराणसी, कौशांबी और त्रिपुरी आदि से इस क्षेत्र के सम्पर्क सूत्रों, आवागमन के मार्गों और इतनी उत्कृष्ट शिल्पकला के निर्बाध क्रम की राजनैतिक, सामाजिक, धार्मिक और आर्थिक पृष्ठभूमि के विषय में भी सुनियोजित अध्ययन की आवश्यकता होगी।

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9. तदेव

10. तदेव

11. तदेव

राकेश तिवारी

गिरीश चन्द्र सिंह

उ० प्र० राज्य पुरातत्व संगठन,
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जमसोत का शिव-मंदिर : जनपद इलाहाबाद

राधाकान्त वर्मा

जमसोत का भव्य शिव-मन्दिर तमस की सहायक लपरी नदी के उत्तरी तट पर इलाहाबाद जनपद की मेजा तहसील के कोरांव में आधुनिक जमसोत ग्राम में अवस्थित था। पूर्व मध्यकाल में विशेषतः कलचुरी नरेशों के राजत्व-काल में इस क्षेत्र का विशेष महत्व था। पश्चिम तथा दक्षिण भारत से वाराणसी तथा पाटलिपुत्र की ओर जाने का प्रमुख मार्ग यहां से होकर जाता था। प्राचीन भारतीय इतिहास, संस्कृति एवं पुरातत्व विभाग, रीवा विश्वविद्यालय के तत्वावधान में जो सर्वेक्षण कार्य गत वर्षों में हुए हैं, उनसे इस क्षेत्र के प्रारम्भिक ऐतिहासिक काल में प्रयोग में आने वाले व्यापारिक एवं राजमार्गों पर समुचित प्रकाश पड़ा है। यह सर्वविदित है कि प्राचीन काल में महास्तूपों का निर्माण प्रमुख व्यापारिक मार्गों पर करने की एक परम्परा थी। भरहुत तथा कौशाम्बी के महास्तूपों के लगभग मध्य में देउर कोठार का एक महास्तूप एवं बिहार सोहागी के निकट स्थित है जहां से विन्ध्य की पहाड़ियों से उतरकर गंगा के मैदानी भागों में प्रवेश करते हैं। उपलब्ध पुरातात्विक साक्ष्यों के आधार पर यह निश्चित रूप से कहा जा सकता है कि प्रारम्भिक ऐतिहासिक काल में पश्चिम तथा दक्षिण भारत से जो भी यात्रीगण अथवा व्यापारी कौशाम्बी, त्रिवेणी संगम अथवा वाराणसी की ओर जाते थे वे रीवा के निकट बीहर नदी के किनारे-किनारे अजगरहा, मनकहरी होते हुए बैकुण्ठपुर तक जाते थे और वहां से उत्तर-पूर्व दिशा में सावरपुर, लालगांव बांस, हिनौती होते हुए सितलहा तथा सोहागी के बीच विन्ध्य की पहाड़ियों से उतरकर त्योंथर तथा चौखड़ा होते हुए शंकरगढ़ तक जाते थे। इस सम्पूर्ण क्षेत्र में बहुत से ऐसे पुरातात्विक स्थल मिले हैं जहां से आहत एवं ढली हुई मुद्राएँ, पकी हुई ईंटों के भवनों के भग्नावशेष, मृण्मय मूर्तियाँ एवं पात्र उपलब्ध हुए हैं जिनको लगभग चतुर्थ शताब्दी ई०पू० में रखा जा सकता है। ये सभी स्थल द्वितीय-तृतीय शताब्दी तक निश्चित रूप से समृद्ध अवस्था में थे। शंकरगढ़ से तीन मार्ग फूटते थे। एक मार्ग उत्तर-पश्चिम दिशा में यमुना को मऊ के निकट पारकर कौशाम्बी जाता था दूसरा उत्तर-पूर्व में त्रिवेणी संगम तथा तीसरा नारीबारी - खीरी - कोरांव होता हुआ मेजा से वाराणसी की ओर जाता था। पूर्व मध्य काल में विन्ध्य क्षेत्र से वाराणसी जाने का यह सबसे प्रचलित मार्ग प्रतीत होता है। अन्य मार्गों की अपेक्षा यह सबसे कम दूरी का भी है।

विन्ध्य से वाराणसी तक के सम्पूर्ण क्षेत्र में ग्यारहवीं शताब्दी के प्रथम चरण से ही, गुर्जर प्रतिहार नरेशों के अवसान के उपरान्त, चन्देल शासकों का प्रभुत्व होता है। महान चन्देल शासक धंग ने वाराणसी तक के प्रतिहार साम्राज्य को विजित कर लिया था। प्रयाग भी सम्भवतः उसके साम्राज्य के अन्तर्गत था क्योंकि एक अभिलेख में उल्लेख मिलता है कि 100 वर्ष की अवस्था में उसने संगम में जल-समाधि लेकर अपने जीवन का अन्त कर दिया था। धंग के बाद उसका पुत्र गंड (1008-1017) तथा गंड के पुत्र विद्याधर ने (1017-1029 ई०) शासन किया। वाराणसी तक का क्षेत्र धंग के पुत्र तथा प्रपौत्र के शासन का भी अंग था, कहना कठिन है। विद्याधर के साथ ही चन्देलों का प्रभुत्व लुप्तप्राय हो जाता है तथा गांगेयदेव कलचुरि का उदय होता है जिसने अपने साम्राज्य का विस्तार वाराणसी तक कर लिया था। 1037-38 ई० के पियावान अभिलेख से ज्ञात होता है कि गांगेयदेव प्रयाग में ही 22 जनवरी, 1041 ई० तक निवास करता रहा जहां उसने अक्षयवट के नीचे शरीर त्यागा। गांगेयदेव का पुत्र कर्ण 1041 में सिंहासनारूढ़ हुआ तथा उसने 1073 ई० तक शासन किया। वह अपने समय का सबसे प्रभावशाली शासक था। उसने वाराणसी को अपनी दूसरी राजधानी बनाया था। अपने पूर्ववर्ती शासकों के समान यह भी महान निर्माता था। वाराणसी में उसने एक मेरू प्रकार के मन्दिर का निर्माण करवाया था जो कर्णमेरू के नाम से विख्यात हुआ। प्रयाग में उसने एक घाट का निर्माण करवाया जिसे कर्णतीर्थ के नाम से अभिहित किया जाता है। उसने कर्णावती नदी के किनारे विद्वान ब्राम्हणों के निवास के लिए कर्णावती नामक आवास-स्थल का भी निर्माण करवाया था। कर्णावती नदी के समीकरण के सम्बन्ध में विद्वानों में मतभेद है। किन्तु उल्लेख्य है कि कर्णावती नामक एक नदी मेजा से तीन किलोमीटर पूर्व में बहती है। यह स्थल जमसोत से अधिक दूरी पर नहीं है।

उपर्युक्त विवरण से स्पष्ट है कि कलचुरियों के राजत्व काल में विन्ध्य क्षेत्र का वाराणसी तथा प्रयाग से घनिष्ठ सम्बन्ध था। उस काल में विन्ध्य क्षेत्र से वाराणसी जाने के लिए कोरांव - मेजा - वाराणसी मार्ग ही अधिक सुविधाजनक भी था। इस सम्पूर्ण क्षेत्र में पूर्व मध्यकाल के अवशेष मिलते

हैं। यदि इस क्षेत्र का वैज्ञानिक रूप से विधिवत सर्वेक्षण किया जाय तो निश्चय ही वास्तुकला तथा मूर्तिकला के महत्वपूर्ण अवशेष प्रभूत मात्रा में मिलेंगे। अभी भी छिट-पुट मूर्तियाँ इस क्षेत्र से समय-समय पर प्रतिवेदित होती रहती हैं।

कुछ काल पूर्व तक जमसोत के अभूतपूर्व मन्दिर के सम्बन्ध में वहाँ से लायी गयी सुर-सुन्दरियों एवं कतिपय देव प्रतिमाओं के अतिरिक्त कुछ भी ज्ञात नहीं था। ये प्रतिमाएँ, इलाहाबाद, कार्पोरेशन संग्रहालय में, जो सम्प्रति इलाहाबाद राष्ट्रीय संग्रहालय के नाम से जाना जाता है, के केन्द्रीय कक्ष में प्रदर्शित थीं। लावण्यता की दृष्टि से ये प्रतिमाएँ सभी का ध्यान सहज ही आकर्षित कर लेती हैं। खेद का विषय है कि तीन दशकों से अधिक समय व्यतीत हो जाने पर भी किसी कलामर्मज्ञ का ध्यान उस मन्दिर के ऊपर नहीं गया जहाँ से ये लायी गयी थीं। तत्कालीन कार्पोरेशन संग्रहालय के निदेशक तथा अन्य कर्मचारियों से की गयी चर्चा से ज्ञात हुआ कि 1962-63 में एक अभियन्ता ने जमसोत के मन्दिर की सूचना संग्रहालय को दी थी जो वहाँ पर एक पुलिया के निर्माणार्थ गया था। इस सूचना के बाद संग्रहालय के कर्मचारीगण जमसोत गए तथा वहाँ से मूर्तियों को निकालकर इलाहाबाद संग्रहालय में ले आए जो आज वहाँ संग्रहीत हैं तथा कुछ प्रदर्शित हैं।

लेखक नव-पाषाणिक तथा प्रारम्भिक ऐतिहासिक स्थलों की खोज में 1964-65 में उस क्षेत्र में प्रथम बार गया था। उस समय तक मन्दिर का ऊपरी भाग वर्तमान था। उसमें यद्यपि कोई भी मूर्ति नहीं थी किन्तु निकट ही खण्डित मूर्तियों, अलंकृत स्तम्भों आदि के अवशेष एवं शिखर के टुकड़े पड़े हुए थे। कतिपय मूर्तियाँ भी एक बाड़े में रखी हुई थीं।

1981-82 में लेखक पुनः भारतीय पुरातत्व सर्वेक्षण के भूतपूर्व निदेशक श्री एम० एन० देशपाण्डे के साथ जमसोत गया। इस समय तक मन्दिर मात्र पत्थरों का ढेर रह गया था। सभी ओर टूटे हुए पत्थर बिखरे पड़े थे तथा स्थानीय लोग उनको छोटी-छोटी गिट्टियों में परिवर्तित कर रहे थे। सन्निकट में ही एक घर के निर्माण में भी मन्दिर के तराशे हुए पत्थर प्रयोग में लाए जा रहे थे। निकटवर्ती बस्ती में सर्वेक्षण से स्पष्ट हुआ कि स्थानीय संस्कृत पाठशाला का निर्माण भी जमसोत मन्दिर के भग्नावशेष से ही किया गया था। गांव में भी अनेक स्थलों पर खण्डित मूर्तियाँ देखी जा सकती थीं। गांव में चर्चा के दौरान ज्ञात हुआ कि यहाँ से बहुत-सी मूर्तियाँ व्यक्तिगत संग्रहालयों आदि में तथा चोर-बाजार में अनाधिकारिक रूप से जा चुकी हैं।

प्रागैतिहासिक अनुसंधान एवं सर्वेक्षण में ही अधिक व्यस्त होने के कारण लेखक ने जमसोत के भग्न होते हुए मन्दिर पर ध्यान नहीं दिया था किन्तु अपनी सांस्कृतिक धरोहर की इस दयनीय स्थिति को देखकर उसने जमसोत के मन्दिर का पुरातात्विक अध्ययन का निश्चय किया तथा इसके सम्बन्ध में भारतीय पुरातत्व सर्वेक्षण तथा उत्तर प्रदेश पुरातत्व विभागों से भी सम्पर्क स्थापित किया। लेखक प्रदेशीय पुरातत्व विभाग का आभारी है जिसने इस कार्य के निमित्त अनुदान देकर इस दुष्कर कार्य को सुलभ कर दिया। यह लेख वास्तव में उसका प्रतिफल है।

जिस स्थान पर कुछ समय पूर्व तक एक भव्य मन्दिर था वहाँ कार्य प्रारम्भ करते समय बिखरे हुए पत्थरों के ढेर तथा नींव के पत्थरों को निकालने के लिए बनाए गए गड्ढों के अतिरिक्त कुछ भी नहीं था। मन्दिर का कोई भी विवरण कहीं भी उपलब्ध नहीं था। इलाहाबाद संग्रहालय में भी उसकी कोई जानकारी उपलब्ध नहीं हो सकी और न ही वहाँ से सभी मूर्तियों की सूची ही प्राप्त हो सकी जो संग्रहालय के भण्डार में रखी थीं। 'अमेरिकन

इन्स्टीट्यूट ऑफ इण्डियन आर्ट', राम नगर, वाराणसी से इलाहाबाद संग्रहालय में रखी हुई मूर्तियों के छायाचित्र प्राप्त हुए जिसके लिये लेखक उनका आभारी है। उनके पास भी छायाचित्रों के अतिरिक्त अन्य कोई विवरण उपलब्ध नहीं था, ऐसी अवस्था में लेखक के समक्ष निम्न समस्याएं प्रमुख थीं।

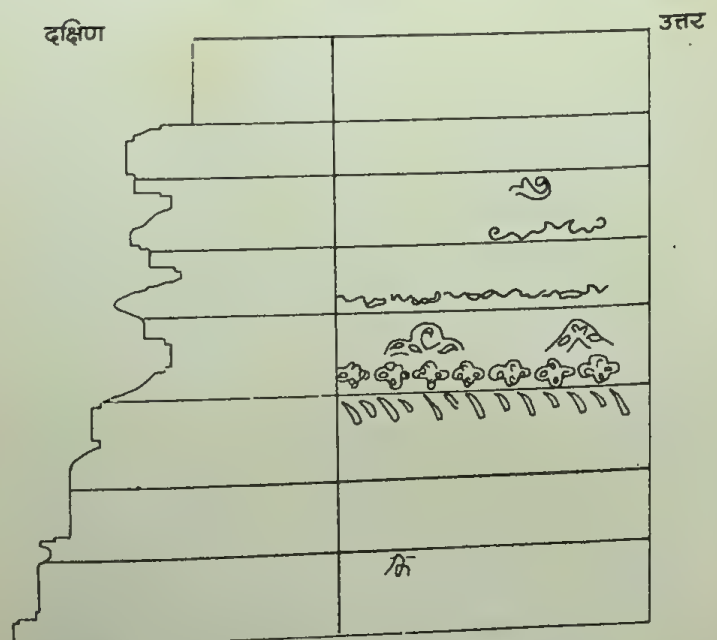
1. मन्दिर की तलछन्द-योजना किस प्रकार की थी ?
2. मन्दिर किस देवता/देवी को समर्पित था ?
3. मन्दिर का सम्भावित निर्माण-काल क्या था तथा किसने उसका निर्माण करवाया ?

मन्दिर की तलछन्द-योजना एवं ऊर्ध्वविन्यास का पुनर्निर्माण एक गहन समस्या थी क्योंकि बहुत से स्थलों से नींव के पत्थर तक निकाल दिये गये थे। बड़े-बड़े पत्थरों के ढेरों को हटाना भी कम दुष्कर नहीं था क्योंकि वहाँ ढेर के अतिरिक्त कुछ भी दृष्टिगोचर नहीं था। सौभाग्य से ऊपर के पत्थरों को हटाने के उपरान्त गर्भगृह की पीठ का एक भाग सुरक्षित मिला जिसे आधार मानकर ऊर्ध्व विन्यास (रेखा चित्र-1) का पुनर्निर्माण किया जा सका।

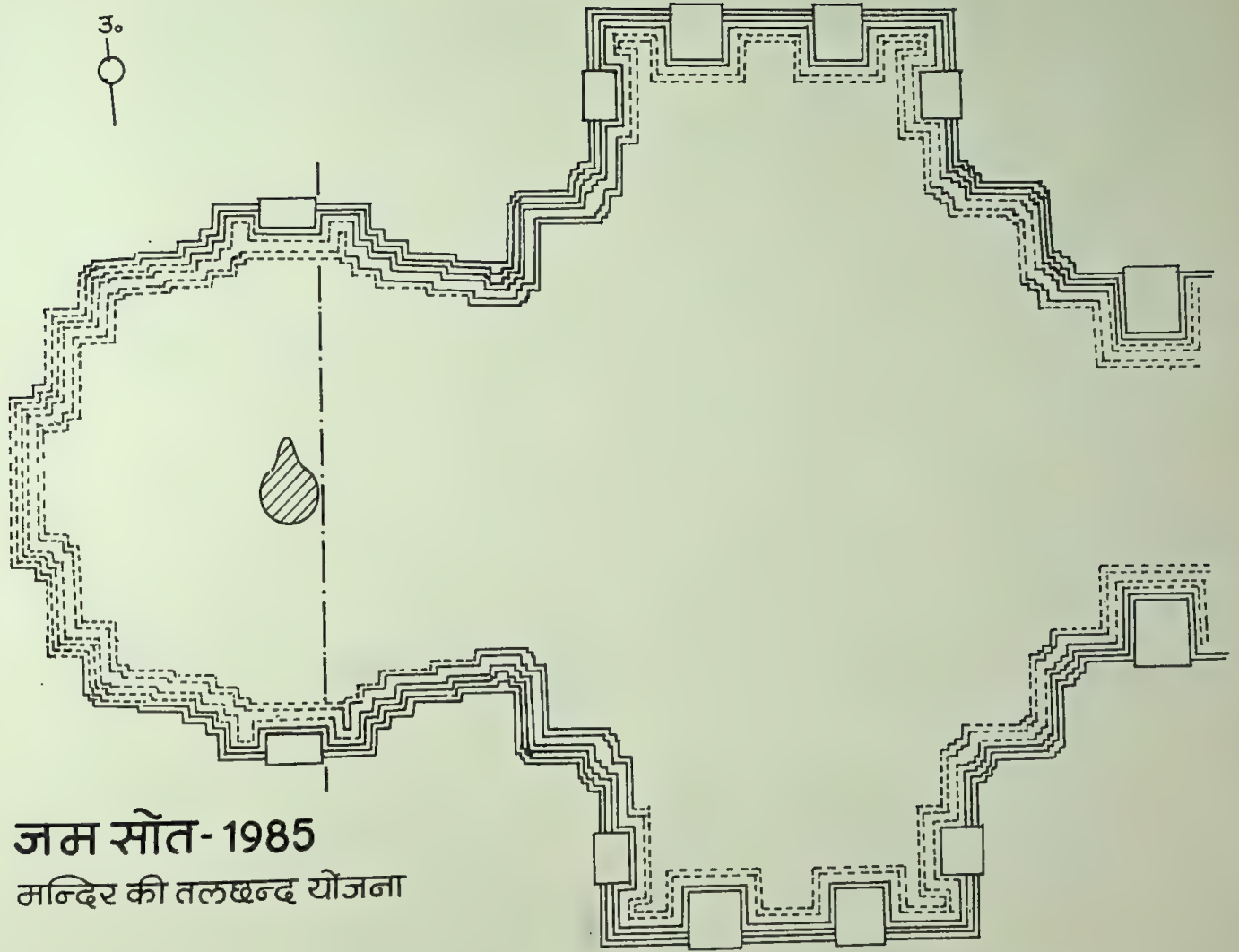
अवशिष्ट गर्भगृह की पीठिका एवं निकटवर्ती क्षेत्रों के सूक्ष्म सर्वेक्षण से स्पष्ट हुआ कि मन्दिर का निर्माण एक जगती पर किया गया था। जिस समय (1985) यह सर्वेक्षण किया गया था उस समय निकटवर्ती भूमि से जगती 1.22 मी० ऊंची थी तथा गर्भगृह की पीठिका जगती से 2 मी० ऊंची थी। वास्तव में मन्दिर की जगती का निर्माण मिट्टी डालकर किया गया था। वर्तमान स्थिति में पीठ बहुत स्पष्ट नहीं दिख पड़ती है क्योंकि पानी से मिट्टी

जमसोत-1985

गर्भगृह की पुनर्निर्मित ऊर्ध्वछन्द योजना एवं
सेक्शन



रेखा चित्र सं० 1



जम सौत-1985

मन्दिर की तलछन्द योजना

रेखा चित्र सं० 2

के कटने के कारण समीपवर्ती भूमि से मिल गयी है।

मन्दिर पश्चिम-पूर्व दिशा में था तथा उसका मुख्य द्वार पूर्वोन्मुख था। अत्यधिक भग्न होने के कारण मन्दिर के भीतर की दीवारों का पुनर्निर्माण करना सम्भव नहीं हो सका, किन्तु बाहर की दीवारों की योजना का पुनर्निर्माण किया जा सका (रेखाचित्र संख्या 2)। मन्दिर की तलछन्द योजना के सूक्ष्मावलोकन से ज्ञात होता है कि वह सोहागपुर के विराटेश्वर मन्दिर के समान सप्तरथ योजना से निर्मित था, किन्तु इसमें विराटेश्वर मन्दिर के समान महामण्डप के दोनों पाशवों पर अतिरिक्त कक्ष नहीं थे। मन्दिर के विभिन्न भाग आन्तरिक एवं बाह्य दोनों ही तरफ से परस्पर सम्बद्ध हैं तथा उसका निर्माण एक ही धुरी पर हुआ था जो पश्चिम-पूर्व दिशा में अवस्थित थी। तलछन्द-योजना के प्रमुख अंग 'गर्भगृह', 'अन्तराल', 'महामण्डप' थे। सम्भवतः अर्ध-मण्डप भी था, किन्तु उसकी नींव की रेखाओं को, अत्यधिक भग्न होने के कारण, सुनिश्चित नहीं किया जा सका।

सोहागपुर के विराटेश्वर मन्दिर के समान स्थापत्य की दृष्टि से जमसोत के मन्दिर में भी विकसित स्थापत्य कला के लक्षण स्पष्ट परिलक्षित

हैं तथा खजुराहों के विकसित मन्दिरों से भी कुछ दृष्टि से तुलनीय हैं। यह मन्दिर भी अपनी योजना तथा रूपरेखा के आधार पर त्रिपुरी के कलचूरी नरेशों के द्वितीय काल के स्थापत्य के अनुरूप है जिसे ग्यारवीं शती के प्रथम चरण से बारहवीं शती के अन्तर्गत रखते हैं। मन्दिर के सभी ओर 50 से०मी० की ऊँचाई पर बारह देव-कोष्ठक थे जिनमें सुन्दर देव-प्रतिमाएँ सुशोभित होती थीं। गर्भगृह की बाह्य दीवारों पर भी सभी ओर अनुमानतः 1.8 मी० की ऊँचाई पर देव-कोष्ठक थे। गर्भगृह की वर्तमान दक्षिणवर्ती दीवार पर एक ऐसे ही देवकोष्ठक के प्रमाण उपलब्ध हैं।

विराटेश्वर तथा जमसोत के मन्दिरों की लम्बाई तथा चौड़ाई निम्नलिखित तालिका में अंकित है जिसमें दोनों की आकारगत निकटता का बोध होता है।

	विराटेश्वर मन्दिर	जमसोत मन्दिर
गर्भगृह	7.63 मी०	7.12 मी०
महामण्डप	14.47 मी०	12.12 मी०
अधिकतम लम्बाई (पूर्व-पश्चिम)	18.28 मी०	16.00 मी०

निकटवर्ती क्षेत्रों के सर्वेक्षण से ज्ञात हुआ कि मन्दिर का निर्माण कमल के एक विशाल तालाब के पूर्वी तट पर हुआ था, जो अनुमानतः 500 मी० लम्बा-चौड़ा रहा होगा। इस तालाब का कम से कम पूर्वी किनारा पक्का था क्योंकि आज भी उस किनारे पर गोलाई से बनी सीढ़ियाँ स्पष्ट दृष्टिगोचर होती हैं। चूँकि एक बहुत विस्तृत काल तक उनके रख-रखाव पर कोई ध्यान नहीं दिया गया। अतः सम्प्रति वे अत्यन्त जीर्ण-शीर्ण अवस्था में हैं तथा उनको बेहया की झाड़ियों ने पूरी तरह आवृत कर लिया है (चित्र संख्या 1)। तालाब का भी अधिकांश भाग अब अवसादन के कारण भर चुका है।

मन्दिर के उत्तर में थोड़ी दूर पर एक प्राचीन कुआँ है जो अब नष्टप्राय है तथा उपयोग के योग्य नहीं रह गया है। मन्दिर के दक्षिण ओर एक खण्डहर के भग्नावशेष दृष्टिगोचर होते हैं उनके सर्वेक्षण से स्पष्ट हुआ कि यहां पर स्तम्भों पर निर्मित एक आयताकार बारादरी रही होगी। खेद का विषय है कि सम्प्रति इस बारादरी का कुछ भी अवशेष नहीं रह गया है जिससे इसकी तलछन्द योजना का पुनर्निर्माण सम्भव नहीं हो सका।

गर्भगृह की पीठ के अतिरिक्त कुछ भी शेष नहीं था। अतः यह नहीं जाना जा सका कि यह मन्दिर किस देवता अथवा देवी को समर्पित था। साधारणतया द्वार-शाखा के उत्तरंग से भी यह पहचान होती है कि मन्दिर का प्रमुख देवता कौन है? किन्तु द्वार-शाखा एवं उत्तरंग भी स्थल पर उपलब्ध नहीं थे और उन्हें गांव में किसी स्थान पर भी नहीं देखा जा सका। ऐसी स्थिति में यह निश्चित कर सकना कठिन हो गया कि मन्दिर किस देवता को समर्पित है। जमसोत के मन्दिर से प्रतिवेदित अधिकांश प्रतिमाएँ ब्राह्मण हिन्दू धर्म से सम्बन्धित त्रिदेवों की ही हैं उनके साथ अनेक लघु देव-देवियों, सुर-सुन्दरियों आदि की प्रतिमाएँ भी प्राप्त हुई हैं, किन्तु प्रतिमाओं में शिव एवं शिव से सम्बन्धित देवों का बाहुल्य है। इलाहाबाद संग्रहालय में सबसे विशाल प्रतिमा भैरव की है जिसे जमसोत से लाया गया था किन्तु फिर भी निश्चित साक्ष्य के आधार पर कुछ भी कह सकना सम्भव नहीं था। अतः पुरातात्विक साक्ष्यों की खोज के लिए अधिष्ठान के ऊपर से पत्थरों के ढेर को हटाकर उसे भली-भाँति साफ किया गया जिससे इस समस्या का समाधान सुलभ हुआ। अधिष्ठान के लगभग मध्य में ऊर्ध्वपट्ट के आकार में छेनी के निशान मिले (चित्र संख्या 2), जबकि बाकी सभी भाग। साफ था। निश्चय ही यह अर्धपट्ट को स्थापित करने के लिए किया गया होगा तथा उसके ऊपर शिवलिंग की स्थापना हुई होगी। अर्धपट्ट के ठीक सामने उत्तर दिशा में एक विनिर्गम के त्रमाण भी मिले। विनिर्गम से सम्बन्धित तथा उसकी सीध में गर्भगृह के बाहर एक 'कण्ड' था जहाँ अन्दर का पानी निकलकर संग्रहीत होता था। उपर्युक्त साक्ष्यों से निश्चित हो सका कि जमसोत मन्दिर के प्रमुख देवता शिव ही थे तथा मन्दिर के गर्भगृह में शिवलिंग स्थापित था।

गर्भगृह के ऊपर से जिन शिलापट्टों को उठाया गया था उनमें से एक के ऊपर 'विकसित कमल' का प्रतीक उत्कीर्ण था जिससे यह अनुमान किया गया कि गर्भगृह की छत पर 'विकसित कमल' प्रतीक युक्त वितान रहा होगा (चित्र संख्या-3)।

प्रतीत होता है कि महामण्डप का वितान जिन स्तम्भों पर आधारित था उनके शीर्ष-भाग पर अत्यन्त सुन्दर शालभजिकाओं की प्रतिमाएँ सुशोभित थीं (चित्र संख्या 4-5)। इसी प्रकार की शालभजिका प्रतिमाएँ सोहागपुर के विराटेश्वर मन्दिर में भी सुशोभित हैं।

विराटेश्वर एवं जमसोत के मन्दिरों की तलछन्द योजना, आकारादि में समरूपता एवं निकटता के आधार पर अनुमान किया जा सकता है कि

जमसोत के मन्दिर का ऊर्ध्वविकास भी विराटेश्वर मन्दिर के समान सप्तांगों में ही विभाजित होगा।

विराटेश्वर एवं जमसोत के मन्दिरों में समरूपता एवं जमसोत से प्राप्त प्रतिमाओं तथा कलचुरिकालीन प्रतिमाओं की अत्यधिक समानता से यह स्पष्ट है कि उसका निर्माण कलचुरि नरेशों के राजत्वकाल में ही निष्पादित हुआ होगा। कलचुरि प्रतिमाएँ अपनी कलात्मक विशिष्टताओं के कारण सहज ही पहचानी जा सकती हैं। उनके मुख्यमण्डल की बनावट में उनके चिबुक एवं उनकी नासिका अपनी विशिष्टता लिये हुए हैं। साथ ही उनके शरीर की बनावट में जो लयात्मकता कटि से ऊपर के भागों में मिलती है वह नीचे उनके पैरों में नहीं मिलती। निम्न भाग में कोमलता एवं मांसलता का अभाव सा दीखता है। जमसोत की प्रतिमाओं को देखकर उन्हें सहज ही कलचुरि शैली का कहा जा सकता है।

अब प्रश्न यह है कि इसका सम्भावित निर्माण किसने करवाया होगा? अथवा इसका निर्माण किसके राजत्व काल में हुआ होगा? यह पहले ही कहा जा चुका है कि जमसोत से कोई भी अभिलेख उपलब्ध नहीं हुआ है और न ही किसी अन्य अभिलेख से कोई प्रकाश ही पड़ता है। हम पहले देख चुके हैं कि गांगेयदेव (1015-1041) तथा उसके पुत्र कर्ण (1041-1073 ई०) के समय में कलचुरि नरेशों का प्रयाग तथा वाराणसी पर पूर्ण प्रभुत्व था तथा कर्ण के पुत्र यशःकर्ण के समय में यह प्रदेश गहडवाल वंश के शासकों के आधिपत्य में चला गया था। गांगेयदेव तथा कर्ण दोनों ही यशस्वी, शिवभक्त तथा महान निर्माता थे, किन्तु कर्ण अपने पिता से अधिक प्रभावशाली था। 1051 ई० तक वह उत्तर तथा मध्य भारत का सबसे शक्तिशाली शासक हो गया था। अनुमानतः कलचुरि संवत् 1052-53 में उसने दूसरी बार अपना राज्याभिषेक करवाया तथा वाराणसी को अपनी दूसरी राजधानी बनाया। उसके सेनापति वपुल के रीवां अभिलेख में उसके राजत्वकाल की गणना उसके दूसरे अभिषेक से की गयी है।

गांगेयदेव तथा कर्ण दोनों ही महान निर्माता थे। उनके मंत्री भी इस प्रकार के कार्यों में विशेष अभिरुचि रखते थे। कलचुरि संवत् 800 के रीवा प्रस्तर अभिलेख से ज्ञात होता है कि उसके एक कायस्थ मंत्री ने एक शिव-मन्दिर का निर्माण करवाया था। यह मन्दिर कहां पर अवस्थित था तथा उस मंत्री का नाम क्या था, नहीं जाना जा सका क्योंकि अभिलेख का वह भाग मिट गया है। यह उल्लेखनीय है कि कर्ण के काल के गोहरवा अभिलेख तथा रीवा प्रस्तर अभिलेख में बहुत साम्य है। यहां तक कि दोनों अभिलेखों की प्रथम इक्कीस पंक्तियाँ एक ही हैं। इन दोनों अभिलेखों की इस अनुरूपता के कारण यह अनुमान करना अनुचित नहीं होगा कि दोनों का उद्भव-स्थान भी एक ही था अथवा एक-दूसरे के सन्निकट ही होगा तथा वहां पर कायस्थों का प्रभुत्व होगा। कौशाम्बी से लगभग 32 कि०मी० दक्षिण तथा जमसोत से 48 कि०मी० पश्चिम-उत्तर में बरगढ़ से संवत् 1199 (1142 ई०) का अभिलेख उपलब्ध हुआ है जिसमें उल्लेख मिलता है कि दीवान ठाकुर रत्नपाल श्रीवास्तव पुत्र ठाकुर कुन्दपाल ने एक मन्दिर में अपनी प्रतिमा बनवायी थी। उसी स्थान से प्राप्त एक अन्य अभिलेख में कायस्थ हरिचन्द्र के पुत्र महीधर का उल्लेख मिलता है जो भट्टिग्राम का निवासी था²। ये सभी अभिलेख मात्र इस तथ्य का निर्देश करते हैं कि कम से कम बारहवीं शती के पूर्वार्द्ध तक बरगढ़ से जमसोत तक के क्षेत्र में कायस्थों का विशेष बोलबाला था। आज भी मेजा के कोरांव क्षेत्र में कायस्थों के अनेक परिवार रहते हैं। इसकी बहुत सम्भावना हो सकती है कि जिस कायस्थ मंत्री ने कलचुरि संवत् 800 में रीवां में अभिलेख अंकित कराया था वह इसी क्षेत्र का निवासी रहा हो तथा उसी ने अपने महान शासक के विजयों

के उपलक्ष्य में जमसोत के शिव-मन्दिर का निर्माण वाराणसी जाने वाले मार्ग के सन्निकट करवाया हो। जमसोत का मन्दिर उसी मार्ग पर स्थित है जो गुरगी भसोन से वाराणसी को जाता है। यदि कर्णतीर्थ एवं कर्णावती नदी मेजा के निकट बहने वाली नदी है तो उपर्युक्त धारणा अधिक बलवती होगी।

आभार

मैं श्री जगन्नाथ पाल, रीडर, इलाहाबाद विश्वविद्यालय का विशेष आभारी हूँ, जिनके सहयोग से जमसोत की तलछन्द योजना का प्रारूप तैयार हो सका। इलाहाबाद विश्वविद्यालय के श्री हर्षनाथ कर तथा राजेन्द्र यादव तथा सुश्रिता मालवीय का भी आभारी हूँ, जिन्होंने सर्वेक्षण में सहयोग दिया था। मैं श्री राधेश्याम साहू का भी आभारी हूँ जिन्होंने इस लेख को टंकित किया।

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प्रो० राधाकान्त वर्मा

विभागाध्यक्ष

प्राचीन भारतीय इतिहास, संस्कृति एवं पुरातत्व विभाग
अवधेश प्रताप सिंह विश्वविद्यालय, रीवा (म० प्र०)

Newly discovered Brahmanical Temples from Vasavi

B.L. Nagarch

The village Vasavi is located eight kilometres south of Dhamnod, a town in Dharampuri Tehsil of Dhar district in Madhya Pradesh. Dhamnod is located on the Agra-Bombay road as is connected by Bus with Indore, Dhar, Badwani, Khargone and Khandwa. It can also be approached from Bhopal by Bhopal-Bhikangaon Bus. Vasavi can be approached from the village Dhani which is also located on Agra-Bombay road and is connected by Bus with Dhamnod. Dhani is located six kilometres south of Dhamnod. The road from Dhani to Vasavi is unmetalled and is approximately four kilometres long. Vasavi is located thirty kilometres south of Mandu, the city of joy.

There are two temples at Vasavi. Both of them are located on the southern bank of the river Kiran. One of them is rock-cut and is located near the river and the other is located one kilometre further south of the river, near the village in a locality known as Kheda.

The present paper discusses the artistic and architectural features of these newly discovered temples and also their significance.

1. The rock-cut temple of Śiva

The rock-cut temple is locally known as Kālī Devī temple. It was covered with debris which were removed to expose this structure by the Department of Archaeology, Madhya Pradesh Government in April, 1987 under the

supervision of Shri R.S. Garg, Deputy Director. The temple has been declared as a monument of national importance and is at present under the protection of Archaeological Survey of India. The temple is a monolith. It has been hewn out of a single rock and is a solid mass. However, the temple was left unfinished due to some unknown reason. It consists on plan of a sanctum, an *āntarala*, a *sabhāmaṇḍapa*, an *ardhamāṇḍapa* and faces east [Pl. 1].

Ardhamāṇḍapa

Only the eastern and northern wall facades of the *ardhamāṇḍapa* have been hewn out of the rock. Its southern and western wall facades have not been hewn out. Both the eastern and northern wall facades are plain. Above the wall facades occurs the roof which is carved on the top with an elephant in a fallen position. On the back of the elephant is a chain tied with a belt at either end. The eastern and northern facades of the roof are engraved with plain rectangular pilasters which form a decorative motif here. The northern facade of the roof also shows a head inside a *chaitya-gavāksha* but it has been left partly unfinished. The *ardhamāṇḍapa* measures 2.52 mt. square and is 4.20 mt. high. The fallen elephant on the top of the roof of *ardhamāṇḍapa* measures 1.50 mt. long, 82 cms. broad and 43 cms. high.

Sabhāmaṇḍapa

Only the northern wall facade of *sabhāmaṇḍapa* has been hewn out of the rock. Above the wall facades occurs the roof which is carved on the northern face with sixteen panels each containing a standing male and a female i.e. a *mithuna* : On the top of the roof are carved four seated lions, of whom two face east, one faces north and the remaining one faces south. The heads of both the lions facing east and also the head of the lion facing north have been chopped off. Only the head of the lion facing south is intact and its mouth is slightly open. In the centre of the roof is carved *chandrikā* decorated with lotus-petals and surmounted by a *kalāśa*. The *sabhāmaṇḍapa* measures 3.42 mt. long and 7.20 mt. broad. Each of the seated lions on the roof of the *sabhāmaṇḍapa* measures 56 cms. thick. The tails of all these lions have been beautifully carved. The lion on the facades of north-east corner is seen attacking an elephant who has fallen on his right. The chopped *kalāśa* on the roof measures 1.12 mt. high. The *sabhāmaṇḍapa* is 4.00 mt. high.

Antarāla

Only the northern facade of the *antarāla* has been hewn out. It is plain. The roof of the *antarāla* has been hewn out on eastern, northern and southern facades. It is carved on the eastern facade on the lower portion with four rectangular panels which do not contain any sculpture or carving. The upper portion of the eastern facade is decorated with a circular *chaitya* medallion containing an image of four-armed dancing Siva, i. e. Natarāja. His lower right hand is in *gajatuṇḍa* pose while his upper right hand and upper left hand have been chopped off. His head and both the legs have also been chopped off. A scarf is seen hanging on either side from his shoulders. He wears a *dhōṭī* fastened by a *mekhalā* and *nūpurās*. Dancing *Bhṛīṅgī* is shown in between the legs of Natarāja who is flanked on either side by a seated male attendant. The head of the male attendant on the left has been chopped off. On the upper portion is carved a male deity standing in *anjālimudra* and on the right Karttikeya seated on the mount peacock. He wears a *śikhāṇḍaka* type of headdress. The male deity on the left is Gaṇeśa as is evident from his trunk. The male attendant on the right is a male drummer as can be seen from a drum placed on his left.

On the top of the roof of *antarāla* i.e. *śukanāsa* is seen a

seated bull whose head has been chopped off. His hump is prominently carved. On the lower portion of the eastern facade are also carved two unfinished *chaitya*-medallions each crowned by a *kīrttimukha*. One of them contains a human head. The lower portion of the southern facade of the roof is carved with four unfinished *kīrttimukhas*.

The *antarāla* measures 2.20 mt. long and 2.10 mt. broad. The circular *chaitya*-medallion containing Nataraja in the *śukanāsa* measures 2.11 mt. high, 2.47 mt. long and 1.16 mt. thick. The bull on the top of *śukanāsa* measures 61 cm. high, 1.43 mt. long and 64 cms. thick.

Sanctum

Only the northern and western wall facades of the sanctum have been hewn out. The sanctum is square and its each side measures 3.20 mt. The western wall facade is plain while the northern wall facade is carved with a circular *chaitya*-medallion containing a seated male and female or *mithuna*.

Śikhara

The *śikhara* above the sanctum is of the southern variety i.e. a storeyed one. It has five storeys [Pl. 2]. The first or the lowest storey is plain. The second storey is decorated with circular *chaitya*-medallions each containing a *mithuna* [Pl. 3]. Starting from the left the circular *chaitya*-medallions on western facade of the second storey show :

1. A male and a female in amorous posture.
2. A male and female sitting on a bed in amorous posture.
3. A male and a female seated on a bed in *ālingana*.
4. A seated male teacher or a *sādhū*. A female in *anjālimudrā* is seen kneeling down before him.

All the four circular *chaitya*-medallions on the southern facade of the second storey also contain *mithunas* i.e. a male and a female in amorous posture lying on a bed. Each of the circular medallions is decorated at the base on either side with a head of *gajavyāla*. Only one circular *chaitya*-medallion of the second storey has survived on

the northern facade, the remaining three having been chopped off. It also contains a *mithuna*.

The third storey of the *śikhara* was decorated on the northern, western and southern facades with four circular *chaitya* medallions, each containing a human head. All the four circular *chaitya*-medallions except one on the western facade, have been chopped off. All the four circular *chaitya* medallions on the southern facade of the third storey are intact.

The circular *chaitya* medallions of the fourth storey have been chopped off on the northern and western sides. They are intact on the southern side except one but do not contain any image or carving. Each of them is decorated with a *gajavyāla* on either side at the base and is crowned by a *kirttimukha*. The fifth storey of the *śikhara* is mostly weather-worn. On the top of the fifth storey is seen a seated bull on the southern side. His head has been chopped off. The *kalaśa* on the top of this storey is entirely weatherworn. The height of the temple is 6.00 mts.

It is necessary that proper drainage should be provided for the outlet of the rain water from the temple otherwise there is likelihood of its being filled up with earth.

On the basis of architectural and sculptural styles the temple is assignable to Pratihara period i.e. later half of ninth century AD. It is contemporaneous to Dharmarajeshvara temple at Dhamnar in district Mandsaur of Madhya Pradesh. This temple has resemblance with rock-cut temple complex at Masrur, District Kangra in Himachal Pradesh which also dates from later half of ninth century. Thus the rock-cut temple at Vasavi is of great artistic and architectural importance. Its *śikhara* resembles those of the monolithic *rathas* of Mahabalipuram and the *śikhara* of Kailasa temple at Ellora in district Aurangabad, Maharashtra. The additional significance of this temple is that, it is located in Dhar district of Madhya Pradesh. The Teli ka Mandir at Gwalior, which is a structural temple of the middle of ninth century and was probably built by Mihir Bhoja (836-88), is the other example in which the *śikhara* above the sanctum is also of southern variety.

2. Temple of Gaṇeśa :

The structural temple of Gaṇeśa is located half a kilometre on the east of the village and is known as the

temple of Kheda. The temple of Gaṇeśa or its *Jagatī* platform is in ruined condition at present. Only the plinth or *jagati* platform of the temple has survived. It is in a disturbed and dilapidated condition. A timarand and a *kartar* trees are growing up at the site and the ruins of the temples are seen lying under these trees [Pl. IX].

Among the ruins may be noticed fragments of *adhishtāna* mouldings, shafts of pilasters, ceiling-slabs, a mutilated sculpture of Gaṇeśa and bust of Hanuman.

The following sculptural and architectural and components of the temple deserve attention :

1. Four-armed Gaṇeśa standing in *tribhanga* and carrying *paraśu*, *ankuśa*, *padma* and *modakapātra*. His trunk has been chopped off. The sculpture is broken into two fragments. It measures 2.04 mt. high, 74 cms. broad and 38 cms. thick [Pl. X].
2. Fragment of a double pilaster carved with three bands. The lowest band is that of *chaitya* arches, the middle band consists of diamonds and rosettes, while the top band is carved with *tamālapatras*. It measures 1.07 mt. high, 36 cms. broad and 33 cms. thick.
3. A ceiling-slab decorated with a full blown double lotus. It measures 55 cms. high, 62 cms. broad and 25 cms. thick [Pl. XI].
4. Image of Hanuman in *ālīḍha* pose. His head and both hands have been chopped off. It measures 1.08 mt. high 76 cms. broad and 31 cms. thick. He wears *vaikakshyaka* and *keyūras*. It is broken into two fragments and is covered with white paint. The lower portion of the image shows four-armed Kali seated on his left [Pl. XII].

On the site are also lying two seated modern *Nandis* and a *śivalinga* installed on a *yonipatṭa*. The head of one of the *Nandis* has been chopped off.

It is evident from above that these two temples at Vasavi are important for the study of Saivism in Madhya Pradesh in general and Dhar District in particular.

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Citadel of Lal Kot, Delhi

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Lal Kot, lat. 28°31'40"N, long 77°11'00"E, is the earliest known fort in Delhi which is supposed to have been constructed in the middle of the 11th century A.D. by Anang Pal II, the Tomar ruler of Delhi. The fort is close to the north flank of Mehrauli and encloses the whole of the Qutb Archaeological area, including Qutb Minar, Iron Pillar, Iltutmish's Tomb, Alauddin Khalji's Tomb and madarsa and monuments like Adham Khan's Tomb, Yogamaya's temple, Anangtal and ruined structures in its western half. Its lofty walls, massive bastions and gateways are mostly damaged and sporadically covered with debris. The circumference of the ramparts is nearly 3.6 k.m. with varying thickness ranging between 3 to 9 metres. The total area of the fort is 7,63,875 square metres. The ramparts are surrounded by a ditch and the height of the ramparts from the bottom of the ditch is nearly 20 metres. At small interstices there are bastions, 20 to 30 metres in diameter. The two northern bastions on both sides of a gateway are called Fateh burj and Sohan burj. There is another gateway on the extreme northern side of the fort and walls of Qila Rai Pithora start near it which enlarged the old city of Delhi towards north, east and south and connects Lalkot again to the south-east of Adham Khan's tomb (Fig. 1). This work is credited to Chauhan King Prithvi Raj III (c. 1177-1193 A.D.), popularly known as Rai Pithora.

The two northern and one western gateway known as Ranjit gate have rectangular outer lines of walls in the shape of barbicans but lesser in elevation than the

ramparts improvised for the safety of the gates, seemingly at a later date. On the south-western side near Adham Khan's tomb there is a gateway. The fifth gateway is towards south-east, near Quli Khan's tomb which seems to have been repaired and altered during late Sultanate or early Mughal period.

The Ranjit gate which is about 6 metres wide obdurates in the form of upright Delhi Quartzite stones with a groove for guiding the ascent and descent of a portalis for the defence of the gateway. The approach to the gate was strengthened by a double line of works and by three separate outworks immediately in its front. On the basis of Ziauddin Barni and some other authentications Cunningham tried to identify this gate with the Ghazni gate which was named after the conquering troops from Ghazni¹.

It is presumed that Anang Pal II peopled Delhi and constructed the Lal kot between 1052 and 1060 A.D. Cunningham² has quoted the short inscription on Mehrauli iron pillar — "*Samvat Dihali 1109 Ang (Ananga) Pal Bahi*" which corresponds to A.D. 1052 and also confirms the same on the basis of two manuscripts obtained from Garhwal and Kumaon regions which state that on the 10th day of Margasirsha in Samvat 1117 (or A.D. 1060) Anang Pal built the fort of Delhi and called it Lal kot. He has cited Amir Khusrau saying that Anang Pal had put two stone lions at the entrance gate of his palace and placed a bell by the side of them so that those who

SITE PLAN OF LAL KOT & QILA RAI PITHORA MEHRAULI NEW DELHI.

SCALE 4" = 1 MILE

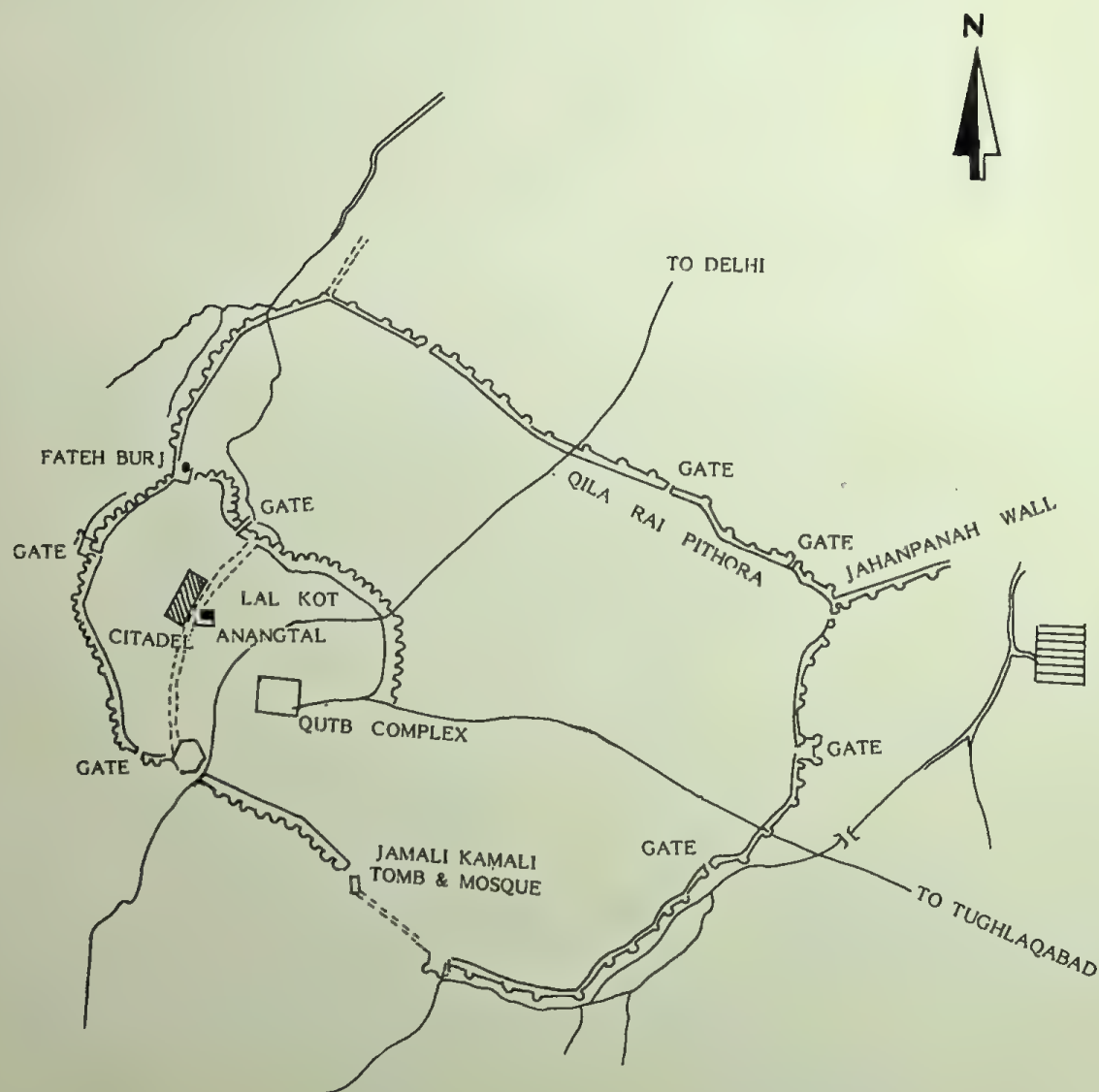


Fig. 1.

sought justice might strike it³. He states that in the manuscript of Mūkji, the bard of the Khichi chauhans it has been said that Qutbuddin, soon after his accession issued seven orders from Lal kot. The *Ain-i-Akbari* and a few other works are specific about the residence of Qutbuddin Aibak and Iltutmish in the fort of Rai Pithora which is none other than the Lal Kot.

A recent exploration of the fort reveals it to be clearly divided into two parts — western half and eastern half in between which is a large reservoir, known as Anangtal. As per measurements taken by Cunningham⁴ the dry tal is 169 feet long from north to south and 152 feet broad from east to west with a depth of 40 feet. It has also been said that water for making mortar for the construction of Alai Minar was brought in the time of Alauddin Khalji (1296 to 1316 A.D.) from Anangtal. The exploration was taken with a view to locate the citadel area or the palace site of Anang Pal in the Lal Kot. On the basis of Qutbuddin Aibak's inscription on eastern entrance of Quwwatul Islam mosque, the complex of which forms greater part of the eastern half of Lal Kot, recording the construction of the mosque after demolition of 27 temples and extensive use of architectural members of temples in the mosque, it is quite clear that the eastern half of the fort was originally occupied by temples and religious structures. Evidently the palace area should have been at a distance preferably at higher level of strategic importance with better water facility. Such suitable spot could be searched only in the western half of the fort. Although there are remains of insignificant and comparatively much smaller structures scattered along with plain and levelled grounds in the western half, there exists a massive mound (Pl. I) having large structural complex of rubble stones abutting to the Anangtal (Pl. II) on its western side having a length of nearly 100 metres in north-south direction with a width of about 30 metres. The height of the mound is nearly 11 metres from road level. Top portions of some of its thick walls can still be seen on the mound. From the northern end of this complex after a short interval there starts a series of comparatively smaller structures all along the defence wall which forms the back wall of the massive structural complex and runs upto the Sohan burj where it joins the fort wall of Lal kot (Pl. III).

Cunningham⁵ has also been observed — "It seems probable that the western half of Lal kot was once cut off from the eastern half, as there are traces of walls and ramparts running from Sohan burj on the north direct south towards Adham Khan's tomb. I traced these walls

as far as the ruined building to the west of Anang Pal's tank. The western portion would have been the citadel of Lal kot under Anang Pal, before the accession of Rai Pithora. My assistant Mr J.D. Beglar has discovered a gateway in the southern half of this wall, between Adham Khan's tomb and the Jog Maya temple".

This defence wall has been a matter of controversy among archaeologists for long which can be settled after the structural complex is properly excavated and exposed. The construction of this dividing wall inside the fort may prove to concillate with the palace of Anang Pal II which was secure from east and south by the existence of Anangtal and from north by ramparts of Lal Kot and from west by this wall. There is a gap in the wall which corresponds to the Ranjit gate towards west.

Carr Stephen⁶ believes that Kushak Firozi, Kushak Sabj and Chabutra Nasira were the palace sites of Mamluk Sultans of Delhi in the old city and on the basis of Ibn Batuta he states that in the year 1205 A.D. Qutbuddin Aibak built a palace in the fort which is known as *Kasr Safed* or white palace. Kushak Firozi is thought to have been located towards the back of Quwwatul Islam Mosque as Beglar had found several baskets full of green enamelled tiles. But the identifications of these palaces are uncertain. *Kasr Safed*, which was also occupied later by Iltutmish, Nasiruddin Mahmud Shah, Balban and others and where many Sultans were enthroned and which witnessed great pomp, ceremonies, contumacious brawls and bloodshed, was also used as royal prison in later times. It is not unlikely that after providing extra-defences to the fortification Qutbuddin Aibak altered the old palace of Anang Pal II or erected *Kasr Safed* in close proximity to it as the mound of the large palace complex has another mound towards its north. Only after careful excavations the palaces could be identified properly.

The earlier excavations conducted by Dr Y.D. Sharma⁷ at Lal Kot were confined to the fortification walls alone although a few structures showing housing activity were also encountered. A preliminary study of pottery and structures showed two cultural phases — Rajput and early Muslim. The pottery of the Rajput phase was plain red, sometimes with red slip, some of the types corresponding to those found in the last period of Ahichchhatra (A.D. 850-1100). Glazed ware was gradually introduced in the Muslim phase. Black-slipped grey ware is also found in the second phase. According to the excavator, the two phases were separated by a deposit of burnt ash and earth mixed with the debris of

the fallen structures. He further adds that the likely pre-Muslim association of the earlier phase was confirmed by a coin of the Rajput bull-and-horseman type picked up from the surface. The excavator had also proposed that the high wall pierced by southern gate (which he calls Ghazni gate) and Ranjit gates was a later construction thrown up for purposes of defence or to enclose the city and thus the inner wall abutting to the citadel and running from Adham Khan's tomb to Sohan Burj seems to have been the original fortification. But this still needs further investigation which could be made clear after a study of the nature of structures.

The forthcoming excavations by the Archaeological Survey of India under the direction of the author it is strongly felt, will shed considerable light on the different phases of structures of these ditch-and-palisade fortifications alongwith their settlement lay out and social hierarchy.

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Note: The site of Lal Kot is presently being excavated by the author of this paper. Ed.

Ganga-Ghats and Temples of Mirzapur

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Studded with a couple of majestic ghats and magnificent temples, the present city of Mirzapur in eastern U.P. is situated on the southern/right bank of river Ganges. Spatially the district is sandwiched between two most sacred ancient cities, to wit, Kashi on the east and Prayag on the west. From the topographical point of view, the township is situated between latitude $25^{\circ}09'N$. and longitude $82^{\circ}35'E$. Not far from the city, the holy temple of Vindhyavasini Devi is found perched upstream on the right bank of the Ganges. Roads diverging radially from the township in almost all principal directions lead to Chunar and Kashi (Varanasi) on the east, to Naini and Prayag (Allahabad) on the west, to Gopiganj and Jaunpur on the north and to Hanumana and Rewa on the south.

Historical back-ground

The district of Mirzapur is replete with archaeological potentiality. Antiquity of this area goes back to the Early Palaeolithic period as manifested by several Palaeolithic sites reported from time to time. Besides, several mesolithic sites, megaliths, rock-shelters and cave-paintings have been reported from this area. Asokan inscription has also been found at Ahraura. The site of 'Kantit' on the right bank of river Ganges, a few Km. upstream from the main city, represents the ancient township which has yielded antiquities ranging from Kushana period to Mughal period. After Jajmau in

Kanpur, Shringaverapur and Jhusi in Allahabad, Kantit is yet another major habitation site followed by Rajghat, Buxar, Chechar etc. down the stream. G.T. Road built during the Mughal period passes through Gopiganj, not far from this place. In 1758 Bikramjit, the king of Kantit, was expelled by Balwant Singh, Raja of Benaras. The power shifted to East India Company from his successor Raja Chet Singh and again it was restored to the descendants of Bikramjit's dynasty.

It was, at the beginning of the 19th century, an important emporium of trade. It was not founded in Mughal times probably till the reign of Shahjahan. Till then Kantit and Vindhyachal were both important places and if the tradition that the latter was destroyed by Aurangzeb be credited, the foundation of Mirzapur is not likely to have taken place till late in the seventeenth century. The earliest mention of the city is to be found in the writings of Tieffen Thaler who drew-up his description of India between 1760-1770. He mentions it under the name of Mirzapur, the greater, as a mart, which had two ghats giving access to Ganga. In the records of Mr. Jonathan Duncan, who also was Resident of Benaras between 1787-1795, frequent mention is made to the place. Subsequent history of Mirzapur was one of the continued prosperity until 1864, the year in which the East India Railway was opened to the Yamuna river bank at Allahabad and trade by river was unable to compete with safety and speed of the railways.

Ghats

Since all the major cities were developed on the banks of rivers construction of the ghats or landing places was a prerequisite necessity to provide access to the river water-front and to facilitate its multi-purpose utilization with utmost safety and Mirzapur is not an exception to this. Initially the ghats would have been *kachcha* utilizing the natural slope but due to technological advancement and necessity *pakka* ghats were constructed. These ghats were built either by local government, traders, devotees or some community. Mostly stone masonry was used to provide more durability to them. The ghats essentially contain flight of steps of varying dimensions according to the needs leading to the river water-front with small bastions and parapet/side walls. Some temples were also raised by the devotees to perform worship after taking bath. Later on Zenana ghats were also built, which were meant exclusively for ladies to give them privacy.

At Mirzapur city there are twelve ghats at present. The course of Ganga is taking a crescentic curve here giving a very picturesque view. The under-current of the river is eroding the ghats substantially. These ghats, with 3 or 4 exceptions, are of small size and of unpretentious design and many of them are in the various stages of ruins and decay due to their weak foundation and neglect. But the cluster of temples at Narghat and Bariaghat on one hand and the graceful arcades, massive piers and broad stairways of the Pakkaghat/zenana ghat on the other hand are worthy of mention. Starting from the west, following is the serial of ghats being described hereunder :-

1. Nar Ghat
2. Gau Ghat
3. Narayan Ghat
4. Jangi Ghat
5. Sankatha Ghat
6. Zenana/Pakka Ghat
7. Dauji Ghat
8. Badli Ghat
9. Sunder Ghat
10. Elliot/Oliyar Ghat
11. Baria Ghat
12. Katcheri Ghat

These ghats, except a few, were most probably

constructed during the early nineteenth century and after.

1. Nar Ghat

Nar ghat is one of the most frequented ghats of Mirzapur and seems to have been one of the oldest ghat of Mirzapur (Pl. 1-4). One of the beautiful temples was constructed here in 1864 A.D. as attested to by the inscription fixed on it. The ghat has been provided with two wings on either sides (east and west) with broad flight of steps, and is interspersed with stone-slabs-paved ramp in the middle. It is presumed that the stone-paved ramp was laid with a view to facilitate the transport/movement of animals, besides the vehicular traffic, too, in bygone days. The wings of the ghat are not that broad. The mortar used here is made of sand, lime, stone-chips and surkhi. The stone slabs are bound together by means of iron dowels which have caused cracks in the masonry due to expansion and contraction. The western wing is much damaged. Burjis are also damaged and dislodged but stabilized. The eastern wing seems to have been repaired in the recent times. The lowest most tip of the flight of stairs has been dislodged, which, however, has been given the support of wooden logs.

As appurtenance to the ghats, a couple of temples have been constructed to facilitate the devotees to offer pooja after taking a holy dip in the Ganges. However, the temples shall be dealt with separately. It is necessary to make a special mention of the wall-paintings on the exterior surface of the eastern wall of haveli, built at the ghat, which depicts scenes from Ramayana and Mahabharat and also Dasavatar of Vishnu. At the extreme upper end of the stone-paved ramp, we notice an unique evidence in the form of a square sandstone pillar on which are inscribed the scheduled rates of toll-tax in Hindi, Urdu and English. It shows that this ghat was mainly used for the purpose of trade. Similar evidence is forthcoming at Sunder ghat, too.

2. Gau Ghat

It is an insignificant ghat of small size located at

about 100 yards east of Nar ghat consisting of steep flight of narrow steps with a number of turns. It is not being commonly used by the people.

3. Narayan Ghat.

To the east of Gau ghat is located Narayan ghat. It is devoid of any wing as such. The flight of stairs is straight and steep synchronising with the profile of the high cliff of the river bank. In the octagonal burji the settlement has taken place which, however, has stabilized.

4. Jangi Ghat

Further east is situated Jangi ghat with equally steep flight of steps. An entrance porch has also been provided here at a certain height from the river level. The west burji which is octagonal is found dislodged but stabilized whereas the top most floor-slab of the eastern burji is missing. In the western parapet wall a few veneer stones are missing.

5. Sankatha Ghat

Next to Jangi ghat and adjoining it is the Sankatha ghat, which is divided in two wings — Eastern and Western. The flight of steps, the burji and the parapet wall are all intact. A small mandapa built over one of the broad steps exhibits three sandstone panels depicting figures of Hanuman, Ram-Lakhsman-Sita and seated Ganesha respectively besides a number of votive Shivalingas, all assignable to circa nineteenth century.

6. Zenana Ghat/Pakka Ghat

This is the most imposing and beautiful ghat meant exclusively for ladies with high screen walls on either flanks. It is a wide stepped ghat with the small mandapas on the either sides meant for cloth-changing by the ladies after bath. However, the

most remarkable structure is the sprawling pavilion situated at the upper end of the ghat with its western wing, placed over the top of the flanking western screen wall, found extending towards the river-front side and eastern wing, however, remaining semi-finished. The exquisite carving, the graceful arcades and massive piers make it an unique ghat of Mirzapur (Pl. 5-10). The nymphs are depicted on the pillars as bracket figures playing musical instruments and in sporting mood. The marvellous treatment of capital showing Garuda eating snakes looks very impressive. Besides, a number of floral and geometrical designs, human figures/heads and intricate jali works decorate the whole pavilion. Even the eaves are not spared but have been given a curly form by the sculptor. The pavilion also extends backwards in two wings making the space an elaborately planned and wall-laid pillared pavilion/baradari together with a spacious courtard. On the roof terrace of the pavilion beautiful jali work in stone decorates the chhajjas.

In the above-mentioned courtyard a pilaster of a fragmentary door-jamb is casually kept showing a dwarf-pala and attendant lady figure in a much weathered condition assignable to the medieval period.

7. Dauji Ghat

Adjoining the Zenana ghat on the eastern side is Dauji ghat. It has got steep flight of stairs. Its burji has stabilized after marginal settlement. It is provided with an eastern wing which forms a subsidiary ghat. Towards the upper end of the stepped ghat is situated a beautiful Shiva temple similar to many others of this type at the other ghats. Yet another temple named Bhaironji-ka-Mandir is located to the west of this temple and to the south of the house of Sri B.K. Sharma, House No. 4/24, Pakka Ghat, Mirzapur. The beauty of the sculptural art of the temple is worthy of mention.

8. Badli Ghat

On the east and next to the Dauji ghat is Badli ghat. It is provided with steep flight of steps and is not a

very significant one.

9. Sunder Ghat

Next to Badli ghat is Sunder ghat. Its lower steps are dislodged. The steps are wider and ramp-like. Two pillars probably added later depict elephant capital and are dated to 1940 A.D.

10. Elliot Ghat

Corrupted as Oliyar ghat it is a cremation ghat, too. Recently it has been repaired to the extent of reconstruction by the Ganga Action Plan Authority.

11. Baria Ghat

The next ghat with three wings besides the central flight of steps is known as Baria ghat. The western wing is provided with ramp-like broad landings with a view to facilitate the movement of the animals, too, whereas the other wings and main ghat do have steep flight of stairs. The lower steps are dislodged and parapet is also damaged on the western side. Further west the existing stairs might have been a part of the Baria ghat but now they are known as Dhobi ghat.

A temple at the upper end of the stepped-ghat is a beautiful and remarkable example of nineteenth century temple architecture.

12. Katcheri Ghat

It is also known as Court ghat. Through this ghat people from far off places come from across the Ganges to attend the Mirzapur Court, which is just close-by to it. This is a very small ghat provided with narrow steps and a subsidiary wing on the western side. The western parapet is damaged.

TEMPLES

A cluster of both small and large temples have been

constructed from time to time at the various ghats, out of which a few may be categorised as the characteristic representatives of the architectural art of the late 18th/early 19th century A.D.

1. Shivalaya of Mahant Salik Giri

The temple is located at Nar ghat. It was constructed in the year 1864 which is evident by an inscription affixed on the exterior of the gharbhagriha wall.

The temple is Pancha-ratha on plan and consists of a garbha-griha and nandi mandapa facing the river-front on the north. The shikhara is of curvilinear pattern and provided with a cluster of subsidiary shikharas on the pattern of the shikharas of Khajuraho temples. However, from inside the elevation of the shikhara has been achieved with the help of squinch arch system initiated originally during the time of the Slave Dynasty of Delhi Sultanate.

Entrance to garbha-griha is through a well decorated and beautifully carved door-jamb with Ganesh shown as Lalat-bimba. The eastern door of the garbha-griha shows Gaja-Lakshmi figure on the Lalat-himba. The garbha-griha is measuring 30.3x30.3 cms. and enshrines a Shiva-linga in the centre.

The other deities represented on four corners are Surya with chariot, Vishnu and Lakshmi, Parvati and Ganesh respectively.

The nandi-mandapa is supported on four ornate pillars depicting Kichakas on the bracket supporting the roof. The interior circle of the dome shows *rāsliḷā* performed by Lord Krishna. Nandi is seated in the centre facing the garbha-griha. It has been carved out of sandstone.

The garbha-griha is provided with circum-ambulatory path. In front of it is a courtyard in the western side of which are kept a number of votive Shivalingas. The temple is in worship.

It is a beautiful representative of the 19th century temple architecture and the contemporary sculptural art.

The inscription is in relief form.

2. Mahakaleshwar Temple

This is yet another magnificent example of the 19th century temple building art and is located on the eastern side of the sloping stone-paved approach road to Nar ghat.

It consists of a garbha-griha and nandi-mandapa and is pancha-ratha on plan having almost similar features as described above in respect of the Shivalaya of Mahant Salik Giri, situated just across the approach road of Nar ghat.

The garbha-griha is entered through a richly decorated door-jamb having Ganesh seated above as Lalat-bimba. Daśāvatāras and other scenes are represented on the pilasters.

Gaj-Lakshmi is shown on the western opening here. The entrance door is adorned with Makara-Toran. Inside the garbha-griha are shown the images of Vishnu and Lakshmi, Sungod, Parvati and Ganesha on the four corners respectively, besides a Shivalinga in the centre.

Nandi is shown seated in the middle of the nandi-mandapa. It is supported on four richly carved pillars and four plain rectangular pillars to add more strength. Pillar capitals show bracket figures depicting winged lady figures playing musical instruments and in other moods. The pillars also depict miniature figures of deities such as six-headed Kartikeya, Hanumana etc. The dome is based on squinch arch system. The circumambulatory path is provided around the temple with six arched openings.

The first floor shows a perforated window on the western side admitting light and air into the garbha-griha.

3. Shivalaya at Sankatha Ghat

This temple is also built on almost similar plan and dimension. It exhibits similar curvilinear pattern of shikharas provided with a cluster of subsidiary shikharas. It comprises of a garbha-griha and a mandapa facing the river-front on the north. It matches the architectural and sculptural treatment of other such temples.

4. Shivalaya at Dauji Ghat

This temple is not much different from the one at Sankatha ghat described above. Its entrance gate has been recently painted with modern paint thus disfiguring the beautiful ornate figures. Dome of the mandapa is damaged. Nevertheless it is yet another magnificent temple.

5. Bhairoji Ka Mandir

This temple is located to the east of the Shivalaya of Dauji ghat described above and to the south of the house of Shri B.K. Sharma, House No. 4/24, Pakka Ghat, Mirzapur. It surpasses all other temples of its type in the abundance and richness of the sculptural art on the exterior of the garbha-griha, though it is similar in respect of ground plan and elevation compared with the temples described above.

6. Shivalaya at Baria Ghat

This temple is most magnificent of all the temples at Mirzapur ghats. The temple is not much different on plan from those described above. It consists of a garbha-griha and nandi-mandapa. The three sides (east, west and south) of the garbha-griha are provided with crescentic flight of steps (ardh-chandra-shila) whereas the north side is approached through the nandi-mandapa.

The garbha-griha is entered through an ornate doorway with Makar-Torana and Ganesh seated as Lalatbimba. The pilasters depict Daśāvatāras and Dwarapalas at the bottom. The garbha-griha enshrines a Shivalinga in the centre. Here one notices two tiers of deities in the corners of the temple which include Vishnu-Lakshmi, Kartikeya, Mahisha-Mardini Durga, Hanuman, Garudvahi Vishnu, Sun god, Parvati, Indrani, Bhairava and Parvati, Ganesh and Bhairava, Vishnu and six headed Kartikeya respectively.

The nandi-mandapa enshrines nandi seated in the centre. The roof is supported on four ornate pillars and Kichakas are depicted as bracket figures shown blowing conch. The pillars also depict

dwarapalas at the bottom and several deities in niches, besides floral and geometrical designs.

The roof of the shikhara which is curvilinear from the outside and provided with a cluster of subsidiary shikharas is built by corbelled system. The interior of nandi-mandapa shows *rāsa-līlā* performed by Lord Krishna.

The exterior of the garbha-griha is unique which differs from other temples in the sense that it depicts a number of deities on its exterior. It shows deep mouldings at the bottom and sculptures of nymphs playing with musical instrument and in other various moods, amorous couples and also be deities including Hanuman, Bhairava, Krishna performing various *līlā*, saints, Lakshmi, Vishnu and others.

From the above delineation, it can be quite easily discerned that there are plentiful of well-laid ghats and their appurtenant temples, the building activities of which can be approximately ascribed to the late 18th/early 19th century A.D. While the construction of the various pucca ghats evidences economic prosperity of the township, the proliferation of numerous magnificent temples reflects the spontaneous expression of the religious fervour of the contemporary society.

As mentioned above, Tiffen Thaler in his write-up of India between 1760-70 A.D. refers about Mirzapur as a mart with two ghats giving access to Ganga. The inference of two ghats by Tieffan Thaler can be reasonably ascribed to NAR GHAT and SUNDER GHAT. The first and foremost predilection in favour of Nar-ghat and Sunder-ghat is the existence of deftly stone-paved ramp. This sort of sloping, solid and stable stone-paved ramp was essentially envisaged to facilitate easy movement/transport of vehicular traffic including animals. The availability of this facility must have contributed tremendously in accelerating the trading and business activities of the various merchants of the contemporary times. Of the 12 ghats mentioned above, there are only two ghats, namely, Nar-ghat and Sunder-ghat which are provided with stone-paved ramp approach to the ganges for the free and unhindered flow of the vehicular traffic. All the remaining 10 ghats are stone stepped ghats and are devoid of paved-ramp, except the Baria-ghat where on the western most flank an insignificant type of stone-paved ramp is in existence, which, however, is, too, narrow to allow vehicular traffic, save the movement of the animals.

Apart from the existence of stone-paved ramp, the other clinching point in favour of Nar-ghat and Sunder-ghat is the existence of stone-pillars carrying the inscribed scheduled rates of toll-tax/tariff chargeable on the movement of goods, vehicles, animals and others. These pillars are of sandstone and are even today intact, as firmly affixed at the upper end of both the ghats.

In addition to the existence of stone-paved solid ramp and rate-pillars of stone, the third and the most pertinent preference in respect of Nar-ghat and Sunder-ghat as the two most leading ghats of Mirzapur between 1760-70 A.D. is the situation and existence of deftly-laid rows of several havelis/kothis, warehouses/godowns and stackyards along the principal roads leading to Nar-ghat and Sunder-ghat. It may be clarified here that all these contemporary buildings/structures are situated just beyond the upper end of the Nar-ghat and Sunder-ghat. It is needless to say that these buildings belonged to the traders and merchants of those times who had indulged in their trade and business through waterways in the bygone days. However, all these old buildings are disappearing briskly due to the modernisation of the locality and its living environment. In the beginning the author has mentioned about the existence of such a haveli/kothi at Nar-ghat, the exterior wall surface of which is richly adorned with beautiful paintings by drawing the scenes from Ramayan and Mahabharat. One such haveli/kothi is found situated at the upper end or Sunder-ghat, too. Its interior as well as exterior wall surface is replated with beautiful paintings, which, however, are fading and disappearing fast due to weathering and neglect. A Primary-school of the Municipality is presently functioning inside this magnificent haveli. Not far from this haveli is the situation and existence of a 'Sarai' which seems to have formed an integral part and parcel of the overall organisation and conduct of the contemporary trade and business.

It is also necessary to bring on record that all the ghats and temples are built of sandstone which is locally available in plenty, as the hills of the Vindhyan range are not far from the river-bank. However, the use of wooden logs is also noticeable at Nar-ghat. It seems the chiselling and dressing of the stones was used to be done at the sites of the ghats after getting the supply of unhewn blocks of rocks from the nearby quarry. It can be seen that pretty large sized stone-slabs have been used in the construction of all these ghats. It may not be out of place to mention here that the western flank of all the ghats are

extensively damaged which can be reasonably attributed to the fury of the river water as here the Ganges is flowing from west to east.

Finally, it is worthwhile to mention here that the items in which trade and business was conducted chiefly included stone, shellac, bamboo, fire-wood, tendu-leaves for *bidis* and brass-wares, besides, of course, the woollen carpets. It is further understood that the township used to receive the supply of cotton-bales from such a far off place like Amaravati (District Guntur) in Andhra-Prāḍesh through the elaborate net-work of the contemporary waterways.

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The Concept of Dharma and Daṇḍa in the Mahābhārata

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Dharma is one of the widest terms in Sanskrit Vocabulary. It embraces within its folds law, religion, duty, usage, virtue, justice, etc. It was considered to be divine, older than the king and kingship, paramount over and above the king and the society. An ideal king was expected to rule according to the Dharma and enforce it by means of Daṇḍa. Hence the king was called the wielder of Daṇḍa (daṇḍadhārakaḥ)¹. Dharma was the law and Daṇḍa the sanction behind the law. The latter represented the coercive power of the state which vested in the king.

The word dharma occurs in the Rigveda in the sense of custom², moral law³, law the duties in general⁴ and in the sense of what is right⁵. According to the Atharvaveda, it was the ancient custom (Prathamani dharmam⁶; dharmam purānam⁷). The king is called the protector of Dharma (dharmasya goptā) in the Aitareya Brāhmaṇa⁸. The Brihadāranyaka Upanishad states thus: "Dharma is the Kshatra of the Kshatra, therefore, there is nothing higher than Dharma⁹." The Buddha, too says in the Anguttara Nikāya that the 'Dhamma' is the sovereign over even the world monarch¹⁰.

We find in the Mahābhārata that the first consecrated king Prithu Vainya had to take the oath that he would scrupulously follow the Dharma as laid down in the Dharmaśāstras and the Nītiśāstras and would never act willfully.¹¹ Utathya admonished Mādhātṛi thus: "One becomes a king for acting in the interest of Dharma and not for conducting himself capriciously....."

All creatures rest upon the Dharma and the Dharma rests upon the king who upholds the Dharma is truly a king..... All creatures grow in the growth of the Dharma and decay with its decay. The Brahman created the Dharma for the advancement and growth of all creatures. For this reason, a king should act according to the dictates of the Dharma for benefitting his subjects¹². The king should do good to all persons without transgressing Dharma¹³.

The Mahābhārata narrates the tradition of the divine origin of the treatise on the Daṇḍanīti¹⁴. Daṇḍa is explicitly defined as that by which the Dharma is maintained¹⁵. The Daṇḍa is not to be divorced from the Dharma, nay, it is to be a servant of the Dharma and is to further its cause¹⁶. Daṇḍa also stood for the rod of chastisement, protecting the virtuous and punishing the wicked. When it was wielded carelessly and unjustly it destroyed the king himself¹⁷.

The Mahābhārata narrates the divine descent of Daṇḍa. It descends from lights, thence to the Vedas, thence to God Hayagrīva, thence to Brahmā, thence to God Śiva, thence to Viśvedeva, thence to the Rishis, thence to God Soma, thence to other gods, thence to Brāhmaṇas, thence to Kshatriyas¹⁸. Daṇḍa is personified and deified as a fierce god¹⁹. It is further stated that the learned have established Daṇḍa on the basis of Dharma. Dharma originates from the Vedas, Daṇḍa enforces Dharma and is its eternal aspect²⁰. The relationship between Dharma

and Daṇḍa is thus elaborated. "Danda establishes Satya in the world, Dharma rests on Satya and the Brahmanas are the repository of Dharma, they study the Vedas, from the Vedas, Yajnas are performed which satisfy the gods, the gods pray to Indra and Indra causes timely rains which facilitate agriculture and the production of grains. All beings derive their sustenance from the grains. Thus the whole world depends on Daṇḍa which remains awake all the time for the protection of people"²¹. Bhishma says that Daṇḍanīti enforces performance of duties, which establishes the norms laid down in Dharma whereby all the four varṇas become fearless, healthy and happy²². Daṇḍa is the lord over everybody, everything rests on Daṇḍa²³. Everything depends on wealth which is regulated by Daṇḍa. That is why Daṇḍa is so important²⁴. According to Arjuna, Daṇḍa alone is the protector of Dharma, Artha and Kāma²⁵. Bhishma asserts that Daṇḍa is the ruler and the protector of people. Daṇḍa is awake when the whole world sleeps. Hence the learned take Daṇḍa to be the Dharma of the king²⁶. According to Vasuhoma, Daṇḍa is the eternal aspect of Dharma. It checks the unrestrained behaviour of the people and restricts them within the norms. Its enforcement should be based on Dharma and Justice²⁷."

Here a relationship is established between the cosmic order, the religious order, the social order, the economic order and the state. The wealth of the state depended on economic order which was dependant on the social order, which was based on ancient usages codified as Dharma. The coercive power of the state was invoked to protect the social order. The social order was supposed to promote religious performances which were believed to maintain the cosmic order.

This line of thinking is evident from many more references. Bhishma says that every thing is controlled by Daṇḍa. It checks the wicked and protects the good²⁸. Arjuna defines Daṇḍa as the code of conduct (Lokamaryādā) which liberates the society from lethargy and protects their wealth²⁹. It regulates the four varṇas and protects their wealth and morality³⁰. He enstals Daṇḍa as the sole preserver of universal order and says if there be no Daṇḍa then "just as the big fish devours the small fish, the strong will devour the weak. There will be confusion about the right and wrong. The learned take Daṇḍa to be the basis of the people. This world and the hereafter rest on Daṇḍa³¹."

According to Bhishma, Daṇḍa is the eternal usage (Sanātana vyavahāra) based on the Vedas. The Vedas

are Dharma and Dharma is the path of the virtuous. Usage (vyavahāra) is another name of Dharma. Daṇḍa is required to protect Dharma. That is why God gave Danda in the hands of Kshatriyas. Daṇḍa is the same Dharma as was propounded by Brahma for the protection of the world and the establishment of respective duties. There is no greater Dharma for a king than Danda. It is this usage which protects the people and being based on truth increases the wealth and sustains the world³².

According to Arjuna the fear of Yamadaṇḍa restrains people from committing sin³³. The fear of Daṇḍa not only restrains people from committing sin but also makes them steadfast and virtuous. No one is willing to perform Yajña, charity and vows. Naturally, virtuous people are rare. Hence people follow the norms out of fear of Daṇḍa³⁴. People remain peaceful and do not destroy each other due to the fear of Daṇḍa³⁵. The brahmacharins, grihasthas, vānaprasthas and sanyāsins remain steadfast in their respective duties due to the fear of Daṇḍa³⁶. Different varṇas perform their duties due to the fear of Daṇḍa³⁷. If there were no Daṇḍa, the brahmacharins would not study, cows would not let anyone milk them, girls would refuse to marry, people would deviate from the āsramdharma, servants would disobey their masters, children would defy their parents, chaste women would give up chastity and dogs and crows would eat up the sacrificial offerings.³⁸

Thus the overwhelming opinions of the Mahābhārata thinkers emphasise that the social order, law, peace, usages and wellbeing of the people rest on Daṇḍa, i.e. the coercive power of the state. Fear of Daṇḍa alone restores order and enforces conformity and right and normative behaviour leading to wealth and prosperity. They believe that if this fear of the coercive power of the state were not there, there would be total chaos and confusion and the entire social edifice would collapse.

Consequently, all these thinkers enjoin upon the king to uphold Dharma and enforce it with the help of Daṇḍanīti³⁹. Daṇḍa is the Dharma of kings⁴⁰. There is no greater Dharma for a king than Danda⁴¹. When the king enforces Daṇḍa he is not touched by sin⁴². That king who protects his people with impartiality and equanimity practises Dharma⁴³. Bhishma enjoins upon the king that brahmanas should not be punished, but any brāhmaṇa deviating from his duties and indulging in criminal activity should be banished from the kingdom⁴⁴. The king should enforce just usage through Daṇḍa⁴⁵. Subjects fear the king who is over eager to inflict Daṇḍa⁴⁶. Draupadi asserts

that the king who does not inflict Daṇḍa cannot enjoy the earth and his subjects cannot remain happy⁴⁷. Wielding the Daṇḍa is the duty of the Khatryas⁴⁸. The king should punish even his parents, brothers, wife and priest if they deviate from their duties. No one is unpunishable for the king⁴⁹.

Only that Kshatriya should be made the king who punishes the wicked and protects the virtuous⁵⁰. However, when a kshatriya king is incapable of restraining thieves and robbers and the admixture of varṇas, then a brāhmaṇa, a vaiśya or even a śūdra capable of protecting the Dharma should wield the Daṇḍa and assume kingship⁵¹. The king should apply Daṇḍa judiciously and inspire fear in the hearts of evildoers⁵². When the king applies Daṇḍanīti properly, the varṇas follow their duties and people become happy and prosperous⁵³. The king should punish his enemies like Yama and order the killing of the robbers.⁵⁴ The king who does not restrain the evildoers has to accept one fourth of their sins⁵⁵. That king who hesitates in inflicting Daṇḍa cannot protect his kingdom⁵⁶. Daṇḍa is called red-eyed (Lohitāksha) because the eyes of the person inflicting Daṇḍa become bloodshed with anger, it is called dark hued (Śyāma) because the punished person sees

darkness before him.⁵⁷ However the Mahābhārata warns the king against excessive or harsh punishment⁵⁸.

An analysis of the above data reveals that normative usage was codified as Dharma then devine origin and sanction was claimed for it. Its purpose was to preserve and conserve the hierarchical social order and to perpetuate the privileges of the upper varṇas. Daṇḍa was the coercive power of the state. It was invoked to sustain Dharma and compel compliance by those who became restive due to the discriminatory character of Dharma. The social order also required the state to maintain law and order and instil fear in the minds of the people by awarding punishment to the non-conformists and deviationists as well as to the criminals. The lawgivers are absolutely committed to the preservation of the Brahmanical norms and the hierarchical social order. They harness the coercive power of the state to enforce it. This liason between the priestly class and the state entrenched both of them and led to the rise of the power and position of the king and strengthened the forces of the status-quo. This provided stability and continuity to the discriminatory hierarchical social order, stifled the voice of dissent and crushed the forces of change. Ultimately, it fossilised the social structure leading to stagnation, decay and degeneration in subsequent ages.

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Ancient North Indian Guilds as Banks

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Guilds played an important role in ancient Indian society. These guilds which have been variously described as *śreṇi*, *sārtha*, *nigama*, *pūga*, etc. In ancient literature were basically economic institutions. However as their organization and constitution grew more and more compact they tended to become social and political institutions as well.

Being mainly an economic institution and having great wealth at their disposal the guilds also served as banks in ancient India. Money saving as a measure of safety in times of stringency has always been prevalent. In the absence of institutions like bank, usually floors and walls of houses, river banks and forests were chosen as places for storing money. But there was always the fear of money being stolen or lost in one way or the other. There is the story of king Dhanananda's immense wealth being swallowed up by the inundated river and same was the fate of Anāthapiṇḍika's hoard of coins¹. Archaeological finds of hoarded treasures at several places testify to the prevalence of this method of keeping money in ancient India. From the *Jātakas* we learn of *śreṣṭhis* acting as private bankers who lent money to aspirants in trade and industry and to provide them facilities for betterment of life². But we do not find the guilds acting as banks in the pre-Buddhist period. In the succeeding centuries the guilds definitely emerged as established banking institutions. There are adequate evidences to prove that they received public property, paid regular interest on the same and lent money to needy persons.

In a passage of the *Arthaśāstra* Kautilya speaks of deposits of guilds (*upanidhi*). The passage runs. "Those who can be expected to trusted with deposits who plan artistic work after their own design and who can be relied upon by guilds of artisans may receive the deposits of the distress³. Elsewhere also he attests to their function of money-lending. When he says, "King's spies disguised as merchants may borrow from corporations bar gold and coined gold for various kinds of merchandise to be procured from abroad"⁴. No hint is available from these passages that the guilds were functioning as banks for the public in general. Kautilya mentions some extra qualities, which were necessary for a guild to function as bank. This shows that not all the guilds were capable to function as banks. The receiving guild was expected to relieve misery (*arthya pratikārah*). It also points to the fact that the guilds had to be necessarily wealthy in order to be in position to render help by making advances on interest. Secondly, it was expected to be proficient in the craft which it undertook (*Kāruśāsītārah*). It should have an established reputation as a school for imparting instruction to new artisans. It is also likely that some fee was charged from those who received instructions. Thirdly, the guild should enjoy the confidence of other guilds (*sannikṣeptārah*). This point is significant as financial matters could only be entrusted to reputed institutions. People should not run the risk of their money being lost or embezzled. The receiving guild should also be adequately competent to undertake any artistic

work expected from it. It should enjoy a good reputation in the artistic field as well so that the other guilds also could have their requirements fulfilled. This hints at their extra-professional qualifications. Finally, the guild should carry the confidence of the depositors. Kauṭilya further observes that the depositor guild could receive its deposit back in times of distress (Uipattau śreṇi nikṣepaṁ bhajeta). It seems that, in times of financial stringency, the depositor guild could draw its money back⁵. Thus Kauṭilya provides us with a concrete basis for assuming that the guilds in his time were functioning as banks also, although in a limited scope. Owing to their stability, integrity, mutual obligations and responsibility, the guilds, in later centuries began to attract the general public also for depositing their money with them and receiving regular interest thereon.

Some seals bearing the legend śreṣṭhi-nigama have also been unearthed at Basārḥ. These seals point to the guilds of bankers who had their own seals. From these seals, Spooner has concluded that banking was as prominent in Vaiśālī as could be expected⁶. It seems that following the example of artisan guilds the śreṣṭhis also organized themselves into guilds and performed the banking function simultaneously.

Much of the support given to the view that the guilds functioned as banks is provided by inscriptional evidences. They also make a mention of the rate of interest charged and the purpose of the deposit in detail. Therefore, much of the information regarding the guilds functioning as banks rests upon the study of inscriptions. The following inscriptions of northern India pointedly suggest that the guilds received permanent deposits from the public under certain stipulations.

A Kṣatrapa inscription of Uśāvadāta the son-in-law of the kṣatrapa king Nahapāna dated 119-24 A.D. records a permanent endowment (aksayanivi) of 3000 kārśāpaṇās invested with two weaver's guilds at Govardhana. Out of this, two thousand kārśāpaṇās were deposited with a weaver's guild at a rate of 1% interest per month. The remaining one thousand were deposited with another weaver's guild, at a rate of 3/4% interest per month. Uśāvadāta invested this money for the community of monks hailing from the four points of horizon living in the cave for defraying their expenditure on cloths and on paying the cost of Kusana (pocket money). These Karsapanas were not to be repaid by one who paid the interest. All this was proclaimed in the guild hall (nigama-sabha) and was written on boards according to the

custom⁷. In another Nasik cave inscription of Isvarasena, there is reference for the sick among the community of Buddhist monks dwelling in the monastery on the trirasmī mountain. A thousand Karsapanas were deposited with the guild of Kularikas (potters), two thousand with the guild of manufacturer of hydraulic engines (odayantrikas), five hundred with another guild whose name is lost and some with the guild of Oil-Millers (tilapisaka). Details regarding the rate of interest have been mutilated. The expression sugatanagatasu is intended to commit the specified guilds existing at the time and their successors to the payment of a perpetual interest⁸.

An inscription at Junar mentions the investment of the income from the two fields with the guild of Konachikas for planting karanja and Banyan trees.

Another Junar inscription states that with the guild of bamboo workers one and three quarters, and the guild of braziers a quarter.....¹⁰. Here the amount invested though mentioned is hardly legible because of the inscription being damaged.

The Mathura Brahmi inscription of 2nd cent A.D. also purports to record the endowment of a punyasala with an aksayanivi i.e. a permanent endowment from which the capital could not be touched. On behalf of the donor, two srenis or guilds were entrusted with the management of 550 puranas each. The name of the first sreni is lost and only two letters-raka can be read. The second was samitakara sreni i.e. probably the makers of wheat flour. The permanent endowment was made with monthly income (masanu masam) expenses were to be covered for serving 100 Brahmanas in the hall (punyasala) and for keeping some provision at the door daily for the benefit of hungry and indigent people. The rate of interest which the guilds paid for such aksayanivi is not specified¹¹.

Even eminent kings like Chandragupta II and his successors Kumargupta I and Skandagupta utilized these banks by depositing their religious endowments with them under certain conditions.

The Gadhwā stone inscription of Chandragupta II states that he deposited 20 dinaras in two instalments with a guild headed by Matradasa for the Brahmanas of the community of the perpetual alm house.

His son and successor, Kumargupta I also deposited on one occasion 13 dinaras and on another 12 dinaras with one or two guilds from the interest of which two alm

houses were to be perpetually maintained¹³.

The Bihar Stone pillar inscription of Skandagupta records a permanent endowment made by him with a guild in the town Ajapuraka. Further information contained in the inscription can not be derived owing to its damaged condition¹².

Deva Vishnu, a Brahmin from Indrapura, gave an endowment which was the permanent property of the guild of oilmen of which Jivanta was the head. The guild paid interest on the amount which provided for two palas of oil for the lamp in the temple of the divine sun. The guild was committed to supply the oil permanently till the Sun and the Moon endured and also in case they removed their residence from Indrapura. Even the amount of oil given as interest could not be decreased. The transgressor of the grant was declared guilty like the slayer of a cow, a spiritual preceptor, or of a Brahmana and was to go to hell condemned with the guilt of those well known five sins together with the minor sins¹⁵.

A fragmentary Mauryan inscription from Mathura, dated 7th or 8th cent A.D. records that a king deposited a good amount of money with a guild of florists (malakara nikaya) as a permanent endowment for the supply of garlands regularly for adorning the head of the deity he worshipped." The garlands were meant to be placed on the head of the deity everyday so long as the Sun and Moon would shine¹⁶.

The Anjaneri plate of Bhogasakti (1st set) registers the endowment of Teja Varman who deposited a hundred rupakas with the guild of merchants in the town of Jayapura, the interest of which was to be spent in providing guggula for the worship of the God, Bhogeswara every year¹⁷.

A Siyadoni record dated Samvat 969 mentions a merchant Nagaka of making a capital investment of 1350 Srimadadi Varaha drammas with the distillers of spirituous liquor who were to pay every month half a Vighraha tungiya dramma on every Cask of liquor to Sri Vishnu Bhattaraka¹⁸.

Three documents of Kaman Stone inscription also record the banking function of guilds¹⁹.

The object of one of the Eastern Ganga inscriptions was to instal a perpetual lamp "to last as long as the Moon and the Sun endure for the God Krtivasa". To provide oil for

the lamp, Balakachhotika is known to have deposited five madhas gold with a section of the merchant's belonging to Achapada grama²⁰.

It is thus evident that the guilds functioned as banks throughout the length and breadth of ancient northern India. They received deposits of public money and paid regular interest on it. It undoubtedly points out their internal coherence solidarity and efficient functioning. All the agreements were registered in the town hall to which guilds were ultimately responsible²¹. But no case is recorded where nigama-sabha had to punish any guild for its breach of contract. It seems that such breaches were negligible because of the severe penal laws formulated by the legal writers for those who broke a contract. The efficiency of their organization is further proved from the longevity of the terms expressed in their contracts. Still more surprising is the evidence recorded in the Indore Copper plate inscription that even a change of place did not liberate them from their liabilities to the depositors.

The rate of interest at one per cent and three fourth per cent per month were low as compared to that which is sanctioned by the smrtis²². As the guilds enjoyed legislative authority and formulated rules on all important aspects of its organisation, variation in the rate of interest must also have been governed by certain rules depending on the nature and type of investment²³.

The endowments were usually made in cash but sometimes also in the form of public property as is evident from the Junar and Eastern Ganga inscriptions.

This function of guilds as banks was based on joint business. They received public money and paid a regular interest on the same. In order to pay interest regularly, they must have lent out money to others to secure profit. The interest charged for that must have been greater in amount than the interest given on endowed money. This enabled them to pay regular interest to the depositors.

In their capacity as banks, the guilds provided facility to the population for satisfying their religious sentiments. It has been argued that the guilds worked in a way similar to modern banks in ancient times. But this view is untenable. Their scope and extent was very much limited in comparison to modern banks. Broadly, the guild banks were the precursors and the proto type of the modern banks and they stimulated the sacred instinct in society.

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छाया-चित्र



Pl. 1. A pictograph from Mirzapur, U.P. (Misra et. al.)



Pl. 2. A petroglyph from Eddakal, Kerala, (Misra et. al.)



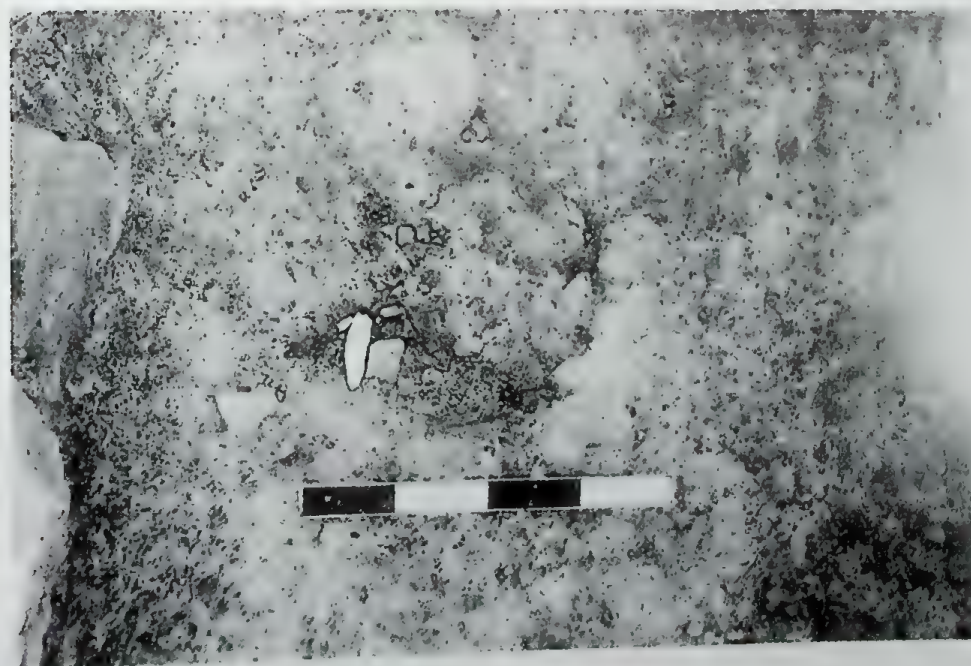
Pl. 1. A view of megalith I. in the background can be seen on an unexcavated cairn, Sarhat, Banda (Pant & Behera).



Pl. 2. General view of megalith V showing wall foundation and stone paved floor, Sarhat, Banda (Pant & Behera).



Pl. 3. Close-up of two orthostats and two capstones over a pit in megalith I, Sarhat, Banda, (Pant & Behera).



Pl. 4. Close-up of the pit with bone pieces after removal of cap-stones in megalith I, Sarhat, Banda, (Pant & Behera).



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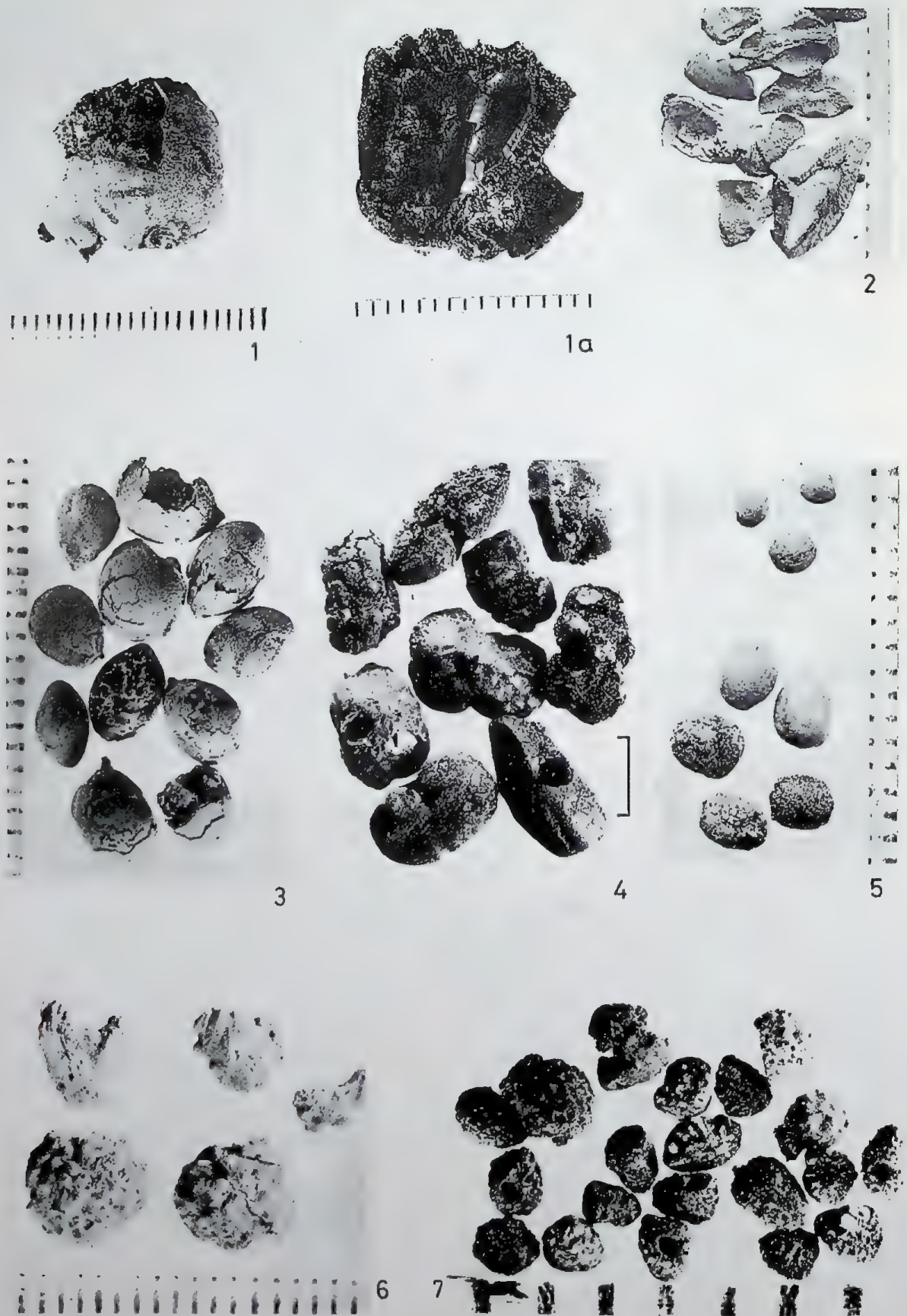


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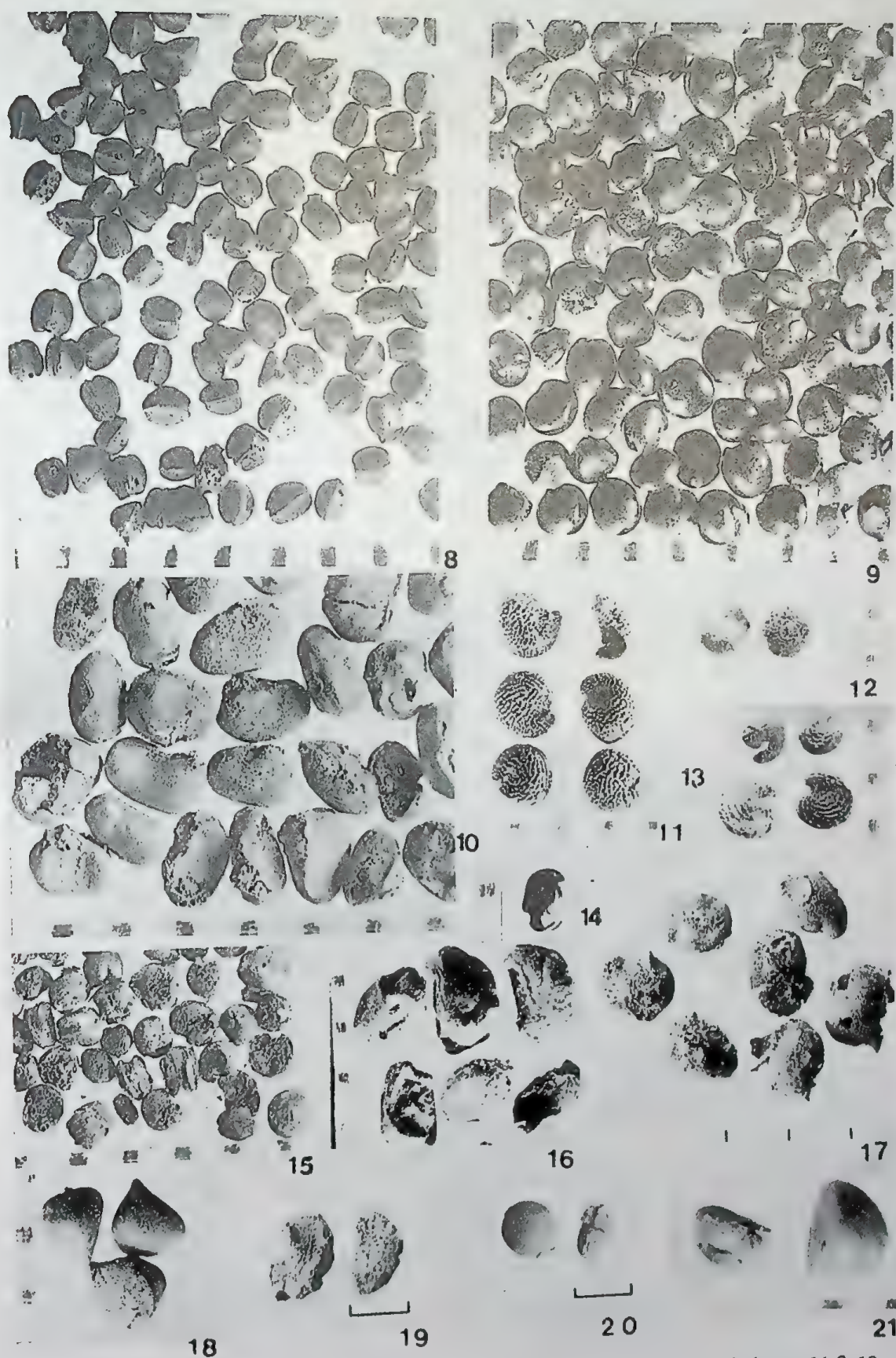
Pl. 1; 1. Rice grains; 2 & 2a. Impression of cultivated rice husk on the potsherd; 3. Grains of dwarf-wheat; 4. Six-rowed barley grains; 5 & 5a. Ventral and dorsal views of barley grain, (Chanchala).



Pl. 2; 1 & 1a. Seeds of grasspea; 2. Seeds of green-gram; 3. Seeds of yellow vetchling; 4. Field-pea seed; 5. Pearl-millet grains; 6. Sea same seeds; 7. African millet grains, (Chanchala).



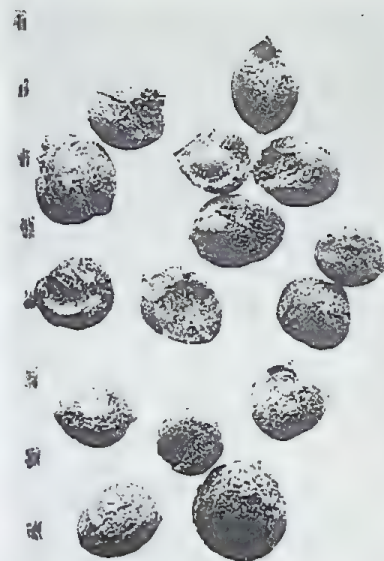
Pl. 3; 1. Dorsal view of beleric myrabolan fruit; 1a. Beleric myrabolan fruit in ventral view; 2. Pericarp pieces of beleric myrabolan; 3. Seeds of silk cotton tree; 4. Seeds of day flower faint; 5. Seeds of common vetch; 6. Fruit pieces of jujube; 7. Junson weed seeds, (Chanchala).



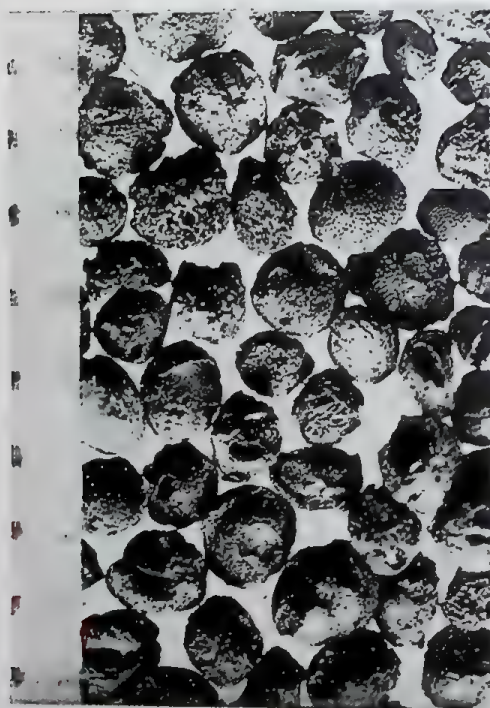
Pl. 4; 8 nuts of *Polygonum barbatum*; 9. Seeds of Goosefoot; 10. Seeds of Tickclover; 11 & 13. Seeds of Lalsabuni; 12, 16, 18, 19. Unidentified seeds; 14. Seed of *Trigonella occulta*; 15. Seeds of cheno Ams; 17. Nightshade seeds; 20. Nuts of spiker-ush sedge; 21. Seeds of country-mallow, (Chanchala).



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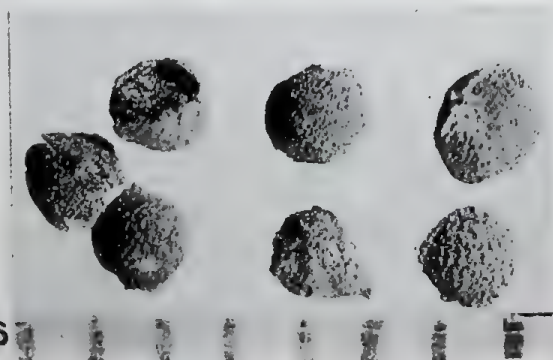
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Pl. 5; 22 & 22a. Indigo seeds; 23, 24 & 25. Unidentified seeds; 26. nuts of Scleria sedge, (Chanchala).



Pl. 6. 27. Wild rice grains; 28 & 28a. Grains of Panicum grass; 29. Grains of blue-stem grass; 30. Grains of Barnyard grass; 31. Grain of blue-grass; 32. Grains of gow-foot grass; 33, 33a & 33b. Nuts of Fimbristylis sedge; 34. Nuts of Flatsedge; 35 & 35a. Nuts of spikerush sedge; 36. Nuts of buirush sedge; 37. Seeds of summer cyperus; 38. Seeds of field bindweed, (chanchala).



Pl. 1. Iron artifacts from Hulaskhera (U.P.); 1, un-identified artifact Fe 18 (possibly arrowhead of period I-B; 2, Spearhead, Fe 94 Period II; 3, Spearhead Fe 79 Period II (Narain et. al).

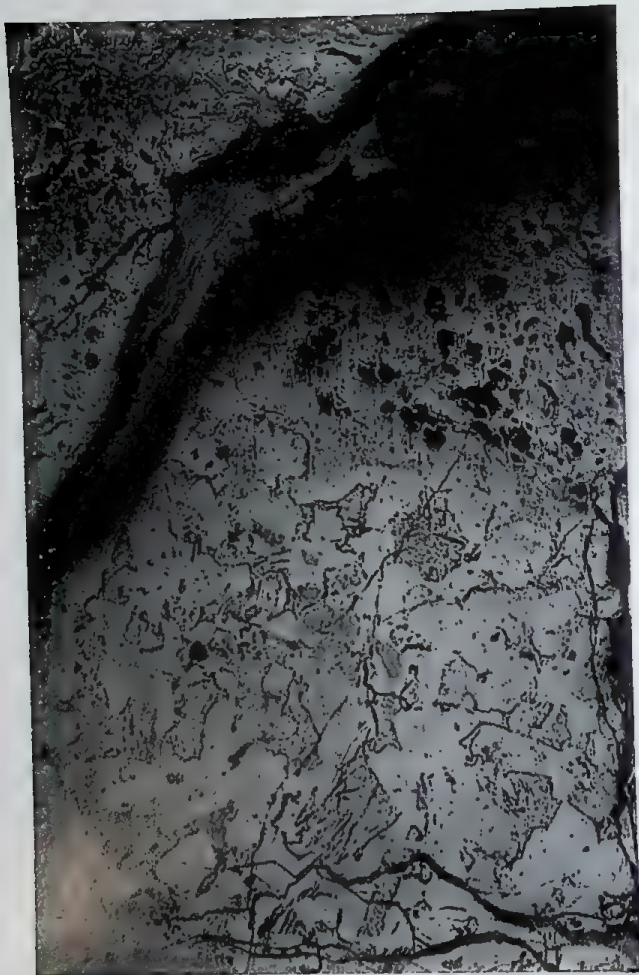
4



5



Pl. 1; A 4 Arrowhead, Fe 24 Period III; 5 un-identified artifact (possibly some part of weapon), (Narain et. al).



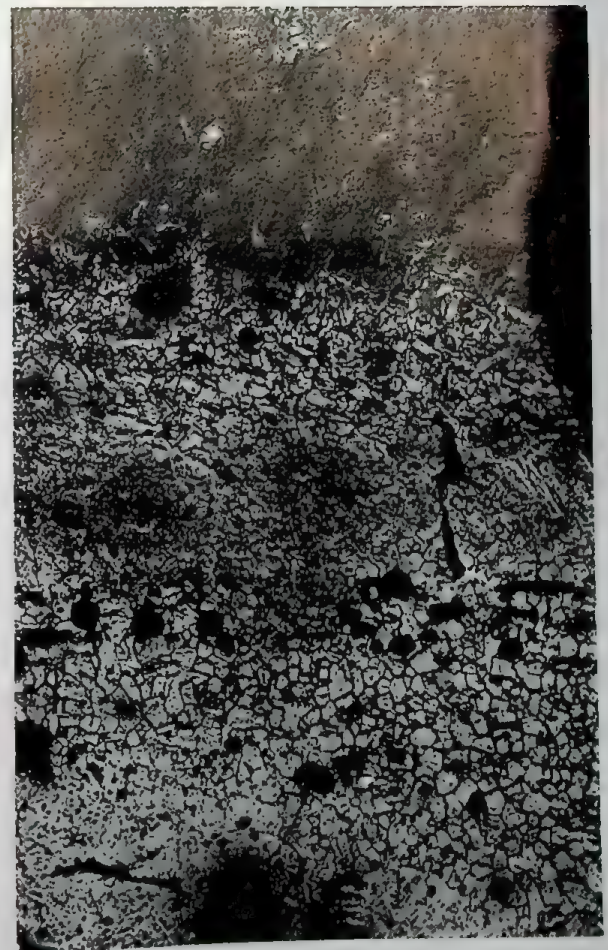
Pl. 2. Photomicrograph from the completely mineralized metal in un-identified artifact (possibly arrowhead) showing relic carbide structure, 500 x, etchant 5% Nital, (Narain et. al).



Pl. 3. Photomicrograph showing layering structure with darker and lighter bands of mild steel and wrought iron respectively in a spearhead Fe 94, 200 x, etchant 2% Nital, (Narain et. al).



Pl. 4. Dispersed pearlite and the interface of two layers in the metal section from spearhead Fe 94, 800 x, etchant 2% Nital, (Narain et. al).



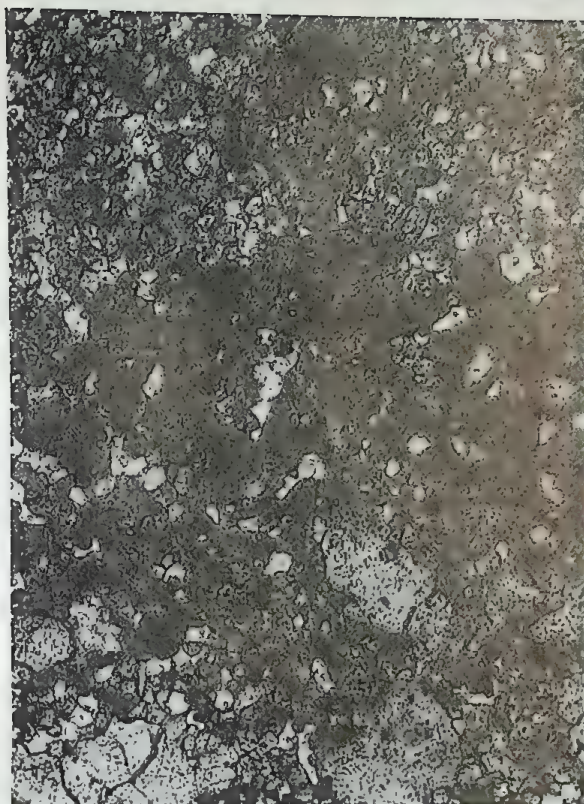
Pl. 5. Photomicrograph of the section from spearhead Fe 79 showing layering structure with bands of light and dark colour of wrought iron, medium and high carbon steel, 200 x, etchant 2% Nital, (Narain et. al).



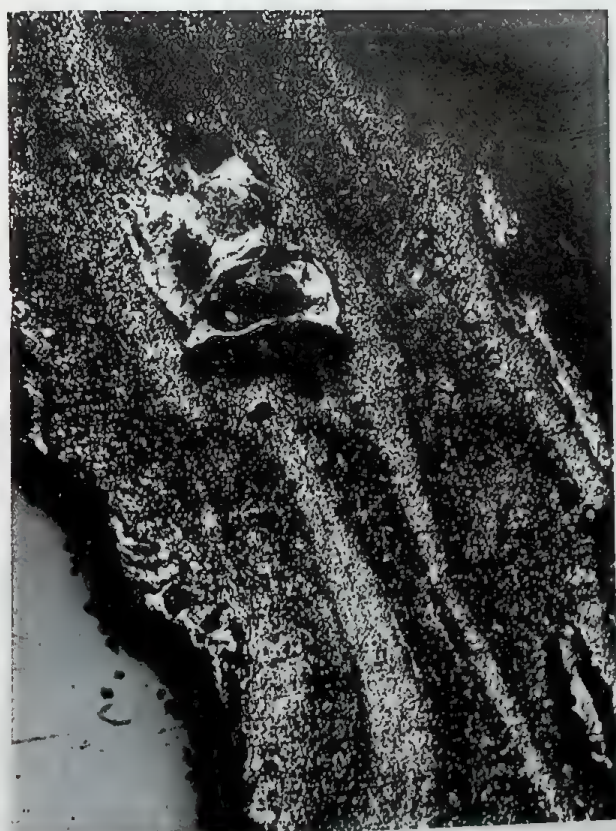
Pl. 6. A zone of the microstructure from spearhead Fe 79 near periphery showing low carburized iron, hypoeutectoid and hyper eutectoid, 250 x, etchant 2% Nital, (Narain et. al).



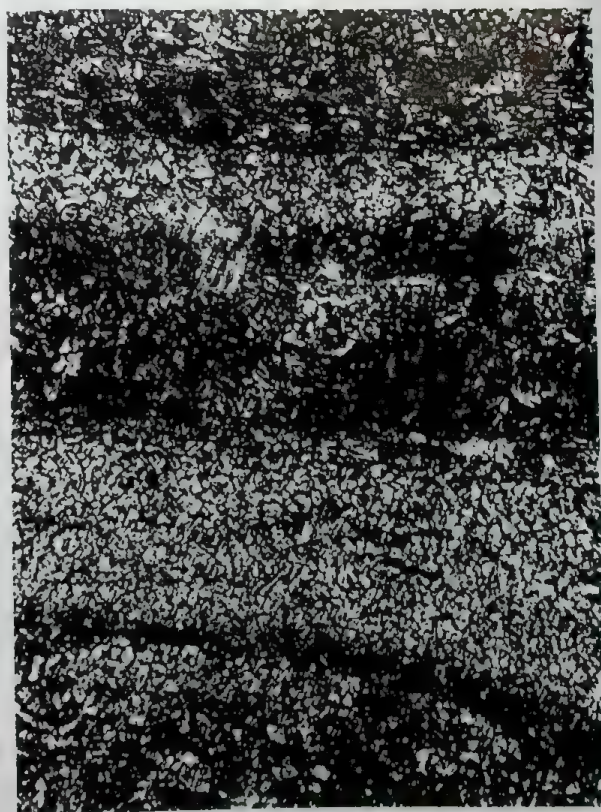
Pl. 7. Photomicrograph of the section from arrowhead Fe 24, showing laminated structure, 50x, etchant 2% Nital, (Narain et. al).



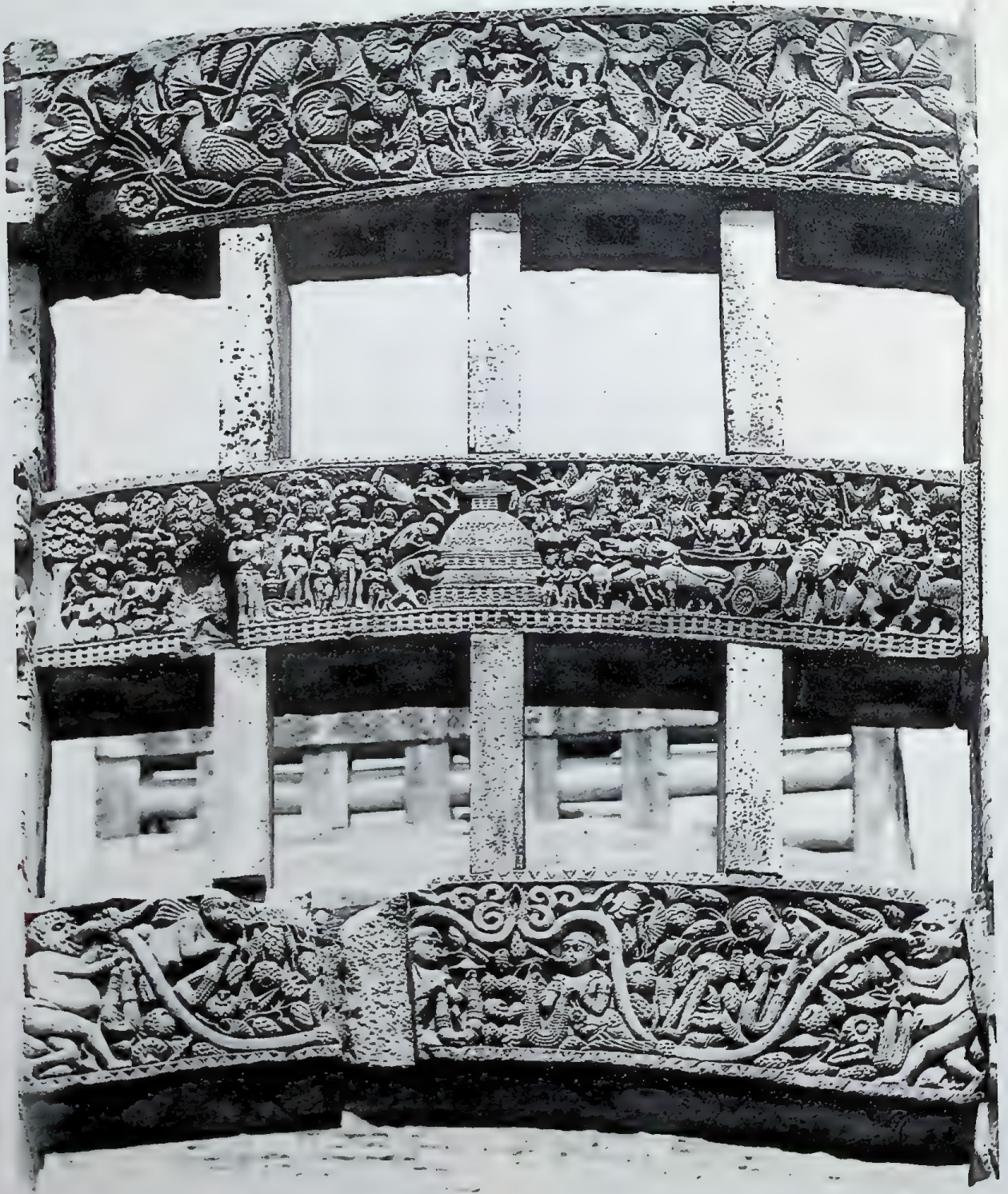
Pl. 8. Dispersed pearlitic structure in the section from arrowhead Fe 24, 250 x, etchant 2% Nital, (Narain et. al).



Pl.9. Photomicrograph of a section from un-identified artifact Fe 93 (possibly part of some weapon) showing laminated structure formed by mild and medium steel strips, 50 x, etchant 2% Nital, (Narain et. al).



Pl. 10. Pearlitic microstructure in the section from un-identified artifact Fe 93 (possibly part of some weapon) at 200 x, etchant 2% Nital, (Narain et. al).



Pl. 1. The Kumbhāṇḍa genii with vegetal growth. Front face, South Gate, Sanchi Stupa I, 1st cent. B.C. (P.K. Agrawal).



Pl. 2. The Kumbhāṇḍa overlord in procession. Bottom panel, front face of west pillar, South Gate of Sanchi Stupa I (P.K. Agrawal).



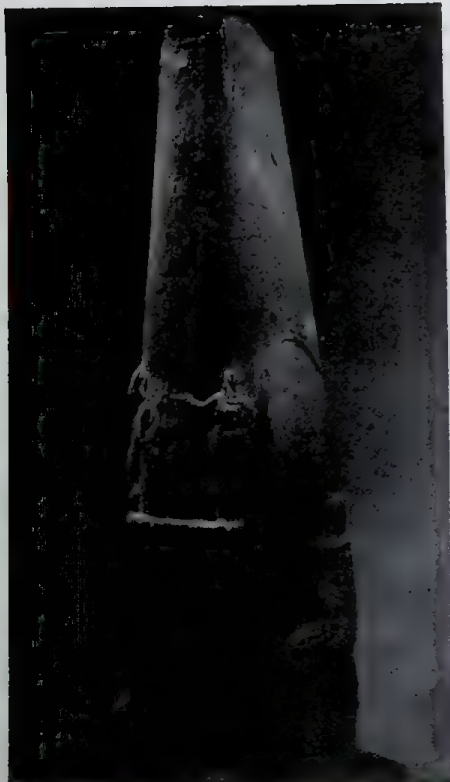
Pl. 3. Standing Kumbhāṇḍa waving a scraf. Red sandstone rail-post from Gurgaon, Haryana, 2nd cent. A.D. now in Mathura Museum, No. 12.190. (P.K. Agrawal).



Pl. 4. Kumbhāṇḍa playing on a double-pipe. Moulded terracotta, from Kosam, c. 1st cent. B.C.



चित्र सं० 1. शिवलिंग का अभिलिखित पार्श्व,
मथुरा (श्रीवास्तव)



चित्र सं० 2. शिवलिंग के अधो पार्श्व पर
निरूपित गण, मथुरा (श्रीवास्तव)



चित्र सं० 3. शिवलिंग का अधो भाग,
मथुरा (श्रीवास्तव)



Pl. 1. Standing Buddha, Sarnath, 474 A.D., Sarnath Museum (Lalit).



Pl. 2. Buddha, Sarnath, c. 425-450 A.D., National Museum, New Delhi, (Lalit).



Pl. 3. Buddha, Jamalpur, Mathura, c. 450 A.D., Govt. Museum, Mathura, (Lalit).



Pl. 5. Buddha, Bazidpur, Kanpur, c. 450 A.D., State Museum, Lucknow, (Lalit).



Pl. 4. Buddha, Govindanagar, Mathura, 434/35 A.D.,
Govt. Museum, Mathura, (Lalit).



Pl. 1. Original seal die of Mahāśvapati
Mahādaṇḍanāyak Kauśāmbī, Alla-
habad (Thaplyal).



Pl. 2. Impression of the original seal,
Kauśāmbī, Allahabad (Thaplyal).



चित्र सं० १. उमा- महेश्वर, सतद्वारी, जनपद- सोनभद्र
(तिवारी एवं सिंह)



चित्र सं० २. रावणानुग्रह, शिवद्वार क्षेत्र, जनपद- सोनभद्र
(तिवारी एवं सिंह)



चित्र सं० 3. रामकथा फलक (?) जनपद- सोनभद्र (तिवारी एवं सिंह)



चित्र सं० 4. रामकथा फलक, जनपद- सोनभद्र (तिवारी एवं सिंह)



चित्र सं० 5. कृष्ण लीला फलक, जनपद- सोनभद्र (तिवारी एवं सिंह)



चित्र सं० 6. चक्रेश्वरी, जनपद- सोनभद्र (तिवारी एवं सिंह)



चित्र सं० 3. रामकथा फलक (?) जनपद- सोनभद्र (तिवारी एवं सिंह)



चित्र सं० 4. रामकथा फलक, जनपद- सोनभद्र (तिवारी एवं सिंह)



चित्र सं० 5. कृष्ण लीला फलक, जनपद- सोनभद्र (तिवारी एवं सिंह)



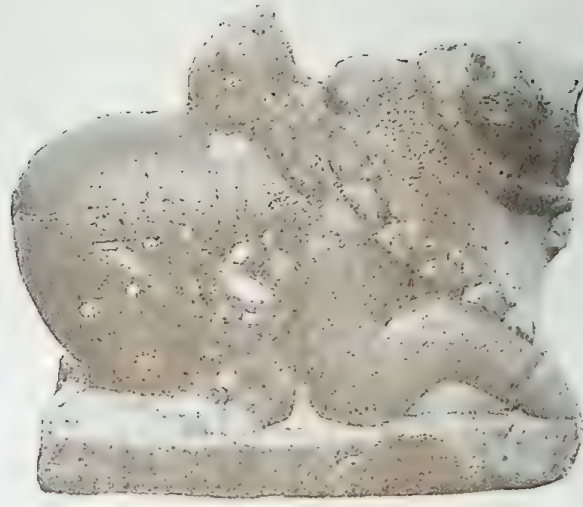
चित्र सं० 6. चक्रेश्वरी, जनपद- सोनभद्र (तिवारी एवं सिंह)



चित्र सं० 7. एकमुख लिंग, मऊ, जनपद- सोनभद्र (तिवारी एवं सिंह)



चित्र सं० 8. सहस्रलिंग, मऊ, जनपद- सोनभद्र (तिवारी एवं सिंह)



चित्र सं० 9. नन्दी, शिव परिवारसहित, मऊ, जनपद- सोनभद्र (तिवारी एवं सिंह)



चित्र सं० 10. नन्दी, शिव परिवारसहित, मऊ, जनपद- सोनभद्र (तिवारी एवं सिंह)



चित्र सं० 11. चन्द्रशालायुक्त शुकनास, मऊ, जनपद- सोनभद्र (तिवारी एवं सिंह)



चित्र सं० 12. पंचायतन देवपट्ट, मऊ, जनपद- सोनभद्र
(तिवारी एवं सिंह)



चित्र सं० 13. स्थानक सूर्य, मऊ, जनपद- सोनभद्र (तिवारी एवं सिंह)



चित्र सं० 14. स्थानक विष्णु, मऊ, जनपद- सोनभद्र (तिवारी एवं सिंह)



चित्र सं० 15. अम्बिका, मऊ, जनपद- सोनभद्र (तिवारी एवं सिंह)



चित्र सं० 16. आसनस्थ गणेश, मऊ, जनपद- सोनभद्र
(तिवारी एवं सिंह)



चित्र सं० 17 अर्धनारीश्वर, मऊ, जनपद- सोनभद्र
(तिवारी एवं सिंह)



चित्र सं० 18. शान्तिनाथ, मऊ, जनपद- सोनभद्र (तिवारी एवं सिंह)



चित्र सं० 19. प्रस्तर स्तम्भ पर उत्कीर्ण कीर्तिमुख एवं हंस,
विजयगढ़, जनपद- सोनभद्र (तिवारी एवं सिंह)



चित्र सं० 20. प्रस्तर स्तम्भ पर उत्कीर्ण कीर्तिमुख एवं हंस, विजयगढ़,
जनपद- सोनभद्र (तिवारी एवं सिंह)



चित्र सं० 21. महावीर, मऊ, जनपद- सोनभद्र (तिवारी एवं सिंह)



चित्र सं० 22. मकर, विजयगढ़, जनपद- सोनभद्र (तिवारी एवं सिंह)



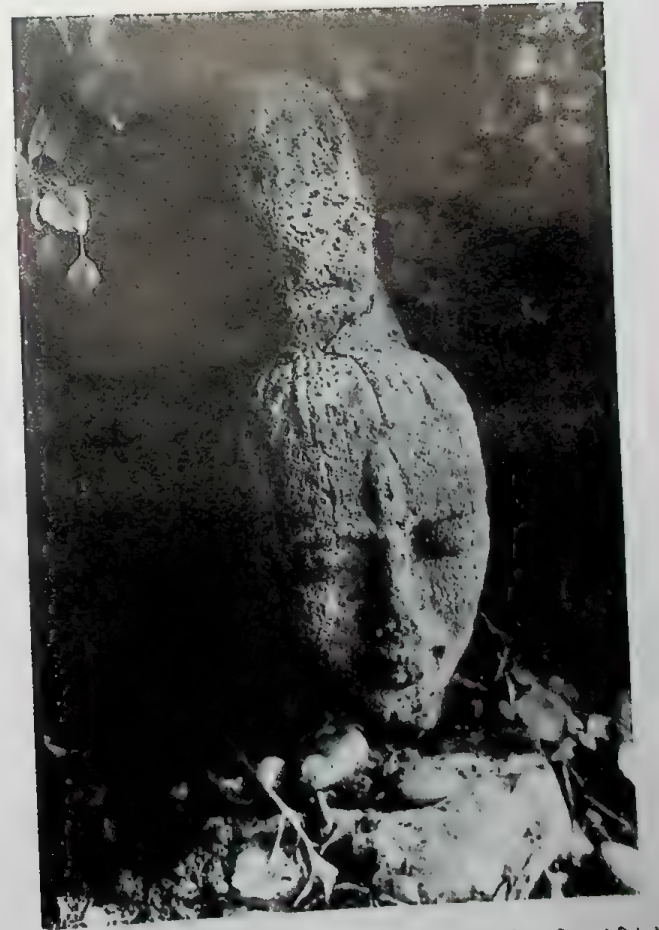
चित्र सं० 23. लघुदेवालय, मऊ, जनपद- सोनभद्र (तिवारी एवं सिंह)



चित्र सं० 24. स्थानक विष्णु, मऊ, जनपद- सोनभद्र (तिवारी एवं सिंह)



चित्र सं० 25. तीर्थंकर, मऊ, जनपद- सोनभद्र (तिवारी एवं सिंह)



चित्र सं० 26. एकमुख लिंग, मऊ, जनपद- सोनभद्र (तिवारी एवं सिंह)



चित्र सं० 1. तालाब की जीर्णशीर्ण सीढ़ियां, जमसोत, इलाहाबाद (वर्मा)



चित्र सं० 2. अर्धपट्ट पर छेनी के निशान, जमसोत, इलाहाबाद (वर्मा)



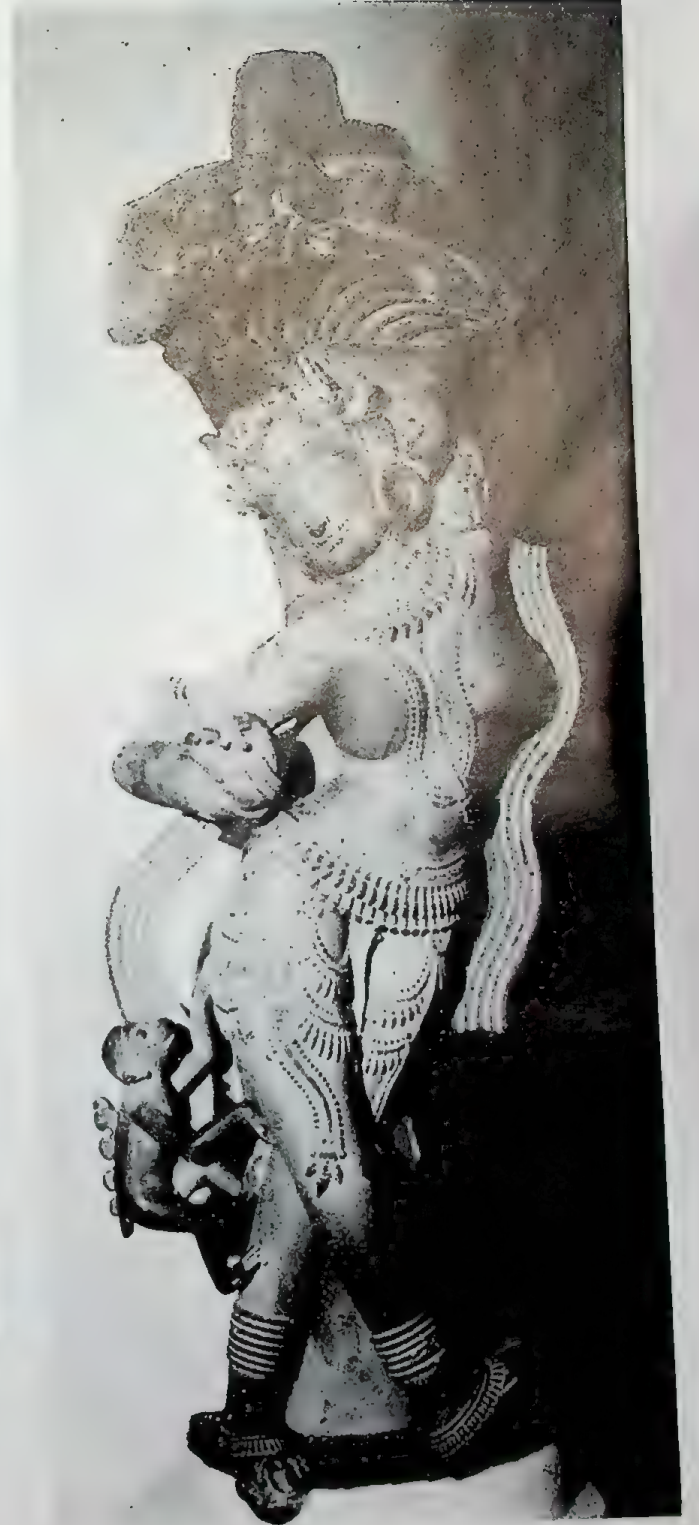
चित्र सं० 3. पद्मयुक्त वितान, जमसोत, इलाहाबाद (वर्मा)



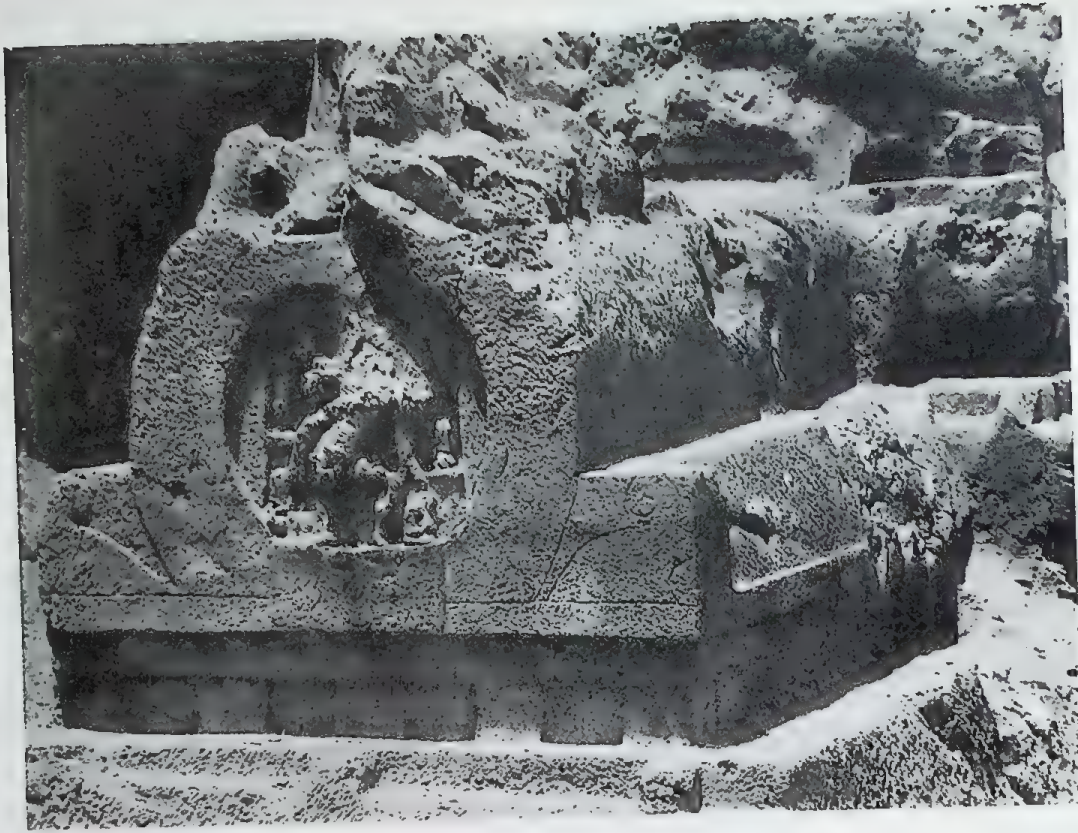
चित्र सं० 4. भग्न गर्भगृह का एक भाग, जमसोत, इलाहाबाद (वर्मा)



चित्र सं० 5. सुर- सुन्दरी, जमसोत, इलाहाबाद (वर्मा)



चित्र सं० 6. सुर- सुन्दरी, जमसोत, इलाहाबाद (वर्मा)



Pl. 1. Rock-cut Shiva temple, the upper portion of the eastern facade, Vasavi, Dhar, M.P., (Nagarch).



Pl. 2. Rock-cut Shiva temple, the northern face of the Shikhara, Vasavi, Dhar, M.P., (Nagarch).



Pl. 3. Rock-cut Shiva temple, chaitya-medallion on the Shikhara, Vasavi, Dhar, M.P., (Nagarch).



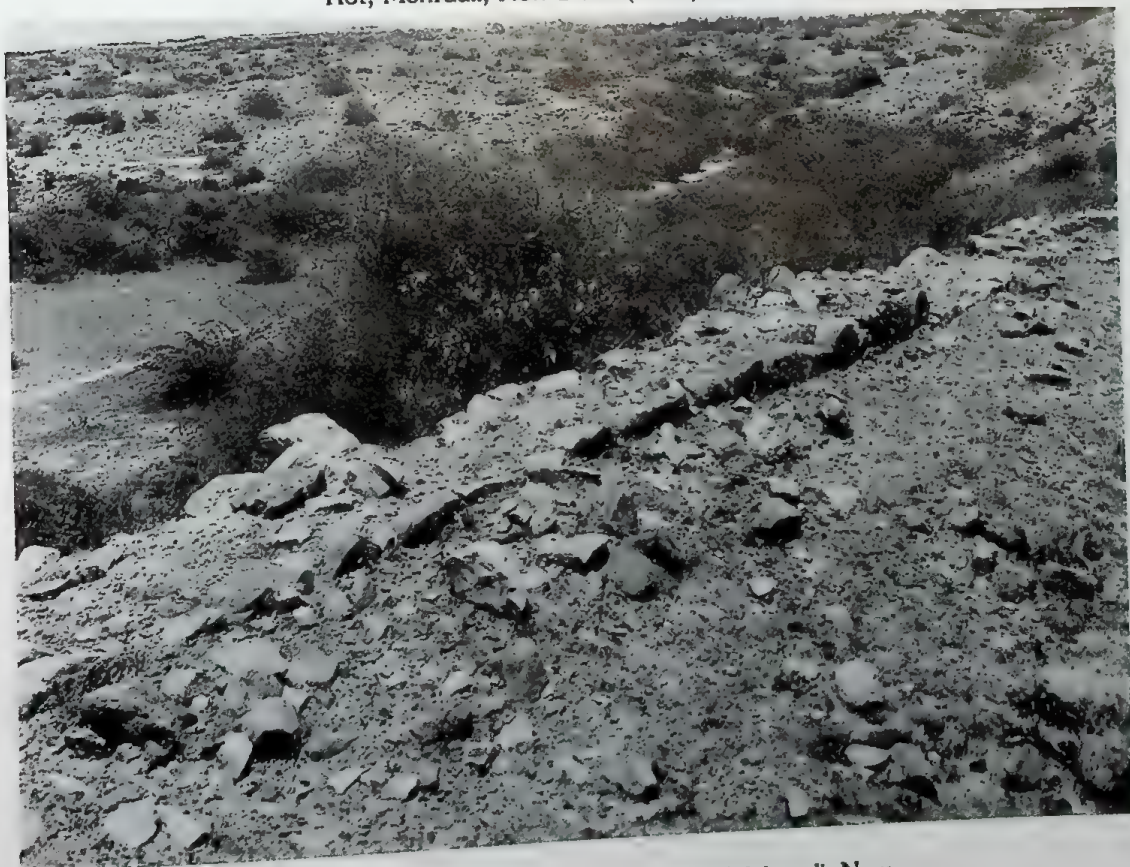
चित्र सं 1. कुबेर, मातृका अम्बिका, कौशाम्बी, इलाहाबाद (अग्रवाल)



Pl. 1. Citadel mound, Lal Kot, Mehrauli, New Delhi (Mani).



Pl. 2. General view of Anangtal from north-west, Lal Kot, Mehrauli, New Delhi (Mani).



Pl. 3. Back wall of the citadel, Lal Kot, Mehrauli, New Delhi (Mani).



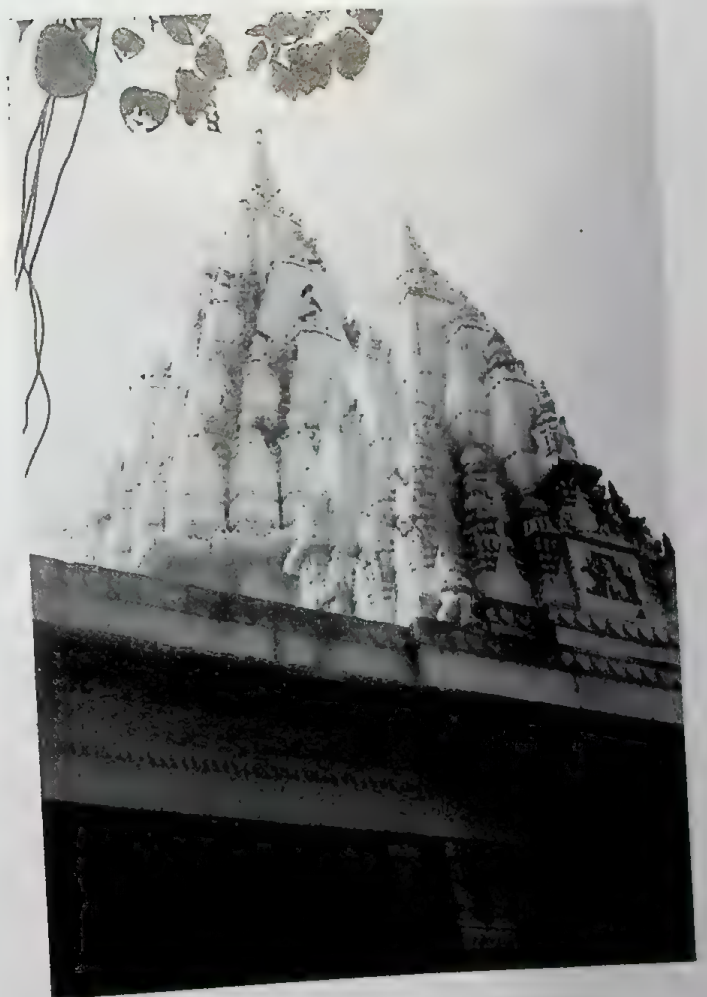
Pl. I . Narghat, Mirzapur City : A side view of the facade of the haveli (on the left hand side) bearing paintings on the exterior wall surface.



Pl. 2. Narghat, Mirzapur City : A frontal view of the above haveli showing paintings, (H. Singh).



Pl. 3. Narghat, Mirzapur City : A general view showing the śikhara of the Shivalaya of Mahant Salik Giri, (H. Singh).



Pl. 4. Narghat, Mirzapur City : A general view showing the śikhara of the Mahakaleswara Shivalaya, (H. Singh).



Pl. 5. Zenana Ghat, Mirzapur City : A general view of the western side/screen wall showing mandapas for ladies cloth-changing, (H. Singh).



Pl. 6. Zenana Ghat, Mirzapur City : Corresponding Eastern side/screen wall and mandapas, (H. Singh).



Pl. 7. Zenana Ghat, Mirzapur City : A frontal view of the pillared pavilion, (H. Singh).



Pl. 8. Zenana Ghat, Mirzapur City : Back view of the above showing the river in the background, (H. Singh).



Pl. 9. Zenana Ghat, Mirzapur City : Close-up view of the carvings on the interior wall surface of the pillared pavilion, (H. Singh).



Pl. 10 Zenana Ghat, Mirzapur City : Close-up view of the pillar of the pavilion, H. Singh).

NOTES FOR CONTRIBUTORS

1. The research papers related to the various fields of Archaeology, History and Culture viz. exploration, excavation, conservation, palaeography, numismatics, art and architecture etc., notes about the new important discoveries and reviews of the research works will be acceptable for this journal.
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लेखकों के लिए आवश्यक टिप्पणियाँ

1. इस वार्षिक पत्रिका में पुरातत्व, इतिहास एवं संस्कृति से सम्बन्धित सभी विषयों पर यथा- सर्वेक्षण, उत्खनन, अनुरक्षण, पुरालिपि, मुद्राशास्त्र, कला एवं स्थापत्य पर लिखे गये शोध-पत्रों, महत्वपूर्ण नवीन उपलब्धियों से सम्बन्धित टिप्पणियाँ और शोध-ग्रन्थों की समीक्षाओं को स्वीकार किया जायेगा।
2. शोध-पत्र हिन्दी अथवा अंग्रेजी में लिखे जा सकते हैं।
3. शोध-पत्र बायें पार्श्व में पर्याप्त स्थान छोड़कर दोहरे स्पेस में सुस्पष्ट टंकित होने चाहिए।
4. यथासम्भव संक्षेप चिन्तों का प्रयोग न किया जाये। यदि ऐसा करना अत्यावश्यक हो तो लेख के अन्त में सन्दर्भ के बाद उनकी सम्पूर्ण सूची दी जाय।
5. चित्र/रेखाचित्र के शीर्षक हल्की पेसिल से उनके पीछे अंकित हों। इनके शीर्षक की एक सूची लेख के साथ अलग से संलग्न की जाय।
6. श्वेत-श्याम छायाचित्र अच्छे, कन्ट्रास्ट और पूर्ण आकार (16.5×21.5 से.मी.) के होने चाहिए।
7. आभार प्रदर्शन सम्बन्धी विवरण एक अलग पृष्ठ पर सन्दर्भों के पूर्व संलग्न किये जायें।
8. सन्दर्भों के विवरण लेख के अन्त में अलग पृष्ठ पर संलग्न किये जायें। इसके लिए मानक प्रारूप निम्नवत् है :-

(क) पुस्तक के सन्दर्भ में लेखक का नाम, प्रकाशन का वर्ष, पुस्तक का नाम (रेखांकित) वाल्यूम, संस्करण, प्रकाशन का नाम-पता और सन्दर्भित पृष्ठ संख्या दिये जायें। उदाहरणार्थ :-

गुप्ते, आर० एस० 1992 आइक्नोग्राफी ऑफ दि हिन्दूज बुद्धिस्ट्स एण्ड जैन्स, प्रथम संस्करण, डी० बी० तारपोरवाला सन्स एण्ड कम्पनी प्राइवेट लिमिटेड, 210, डाक्टर दादा भाई नैरोजी रोड, बम्बई- 1, पृष्ठ सं० 25.

(ख) शोध-पत्रों के सन्दर्भ में लेखक का नाम, प्रकाशन का वर्ष, लेख का शीर्षक (डबल इन्वर्टेड कामा में), शोध-पत्रिका का नाम (रेखांकित), वाल्यूम, अंक, पृष्ठ संख्या दिये जायें। उदाहरणार्थ :-

चक्रवर्ती, डी० के० 1978 "लैपिस लेजूली इन अर्ली-इण्डिया", मैन एण्ड इनवायरनमेन्ट, वाल्यूम 2, इण्डियन सोसायटी फार प्रिहिस्टोरिक एण्ड क्वार्टनरी स्टडीज, फिजिकल रिसर्च लेबोरेटरी, अहमदाबाद, पृष्ठ सं० 51-58.

यदि एक ही वर्ष में एक ही लेखक के एक से अधिक सन्दर्भ दिये जाने हों तो, पहली बार के अतिरिक्त निम्नवत् सन्दर्भ दिया जाये।

चक्रवर्ती डी० के०, 1978.

(ग) प्रथम उद्धरण में पूर्ण विवरण दिया जाये। बार- बार एक ही उद्धरण के लिए "पूर्वोक्त" का प्रयोग, लेखक का नाम और शोध पत्र व पुस्तक के प्रकाशन के वर्ष के साथ अंकित किया जाये।

9. लेख, चित्र एवं रेखाचित्र आदि के चयन के विषय में सम्पादक का निर्णय अन्तिम होगा।
10. शोध-पत्र में उल्लिखित मतों के लिए सम्पादक उत्तरदायी न होंगे।
11. लेख प्रकाशित होने पर लेखक को पत्रिका की एक प्रति तथा उनके लेख की पुनर्मुद्रित निःशुल्क 25 प्रतियाँ भेंट की जायेंगी।
12. पत्रिका से सम्बन्धित समस्त पत्र- व्यवहार निम्न पते पर किये जायें :-

सम्पादक,

उ० प्र० राज्य पुरातत्व संगठन शोध पत्रिका

(जर्नल ऑफ दि यू० पी० स्टेट आर्कियोलॉजिकल आर्गनाइजेशन)

रोशन-उद्-दौला कोठी, कैसरबाग, लखनऊ-226 018. उत्तर प्रदेश, (भारत)।

फोन नं०- 243045 (कार्यालय), 76680 (निवास)।



